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ON SCROFULA, RHEUMATISM, AND ERYSIPELATOUS  
INFLAMMATION.

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BY EDWARD WARREN, M. D.

FELLOW OF THE MASSACHUSETTS MEDICAL SOCIETY.

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PHILADELPHIA:

PUBLISHED BY ADAM WALDIE, 46 CARPENTER STREET.  
1840.

WFA  
W287b  
1840

A vote of the Boyleston Prize Committee passed in 1826, requires the publication of the following resolution.

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# DISSERTATION

UPON THE QUESTION

## “WHAT IS SCROFULA, AND WHAT IS ITS BEST MODE OF TREATMENT.”

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“Kunst macht Gunst.”

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This disease is one of sufficient antiquity. It was described by Celsus, and was known before his time among the Greeks, from whom it derived its name, as they supposed it to be communicated from swine, among whom it prevailed.

Its prevalence in England, may be judged of from the fact, that in the time of Charles II. ninety-two thousand one hundred and seven persons were *cured* of it, according to Dr. Carr, by the royal touch. It was well known that for many years, this was the grand specific for the disease. Writers now treat the account of these cures with ridicule; and yet, if we reflect upon the subject, we may feel disposed to be somewhat less incredulous. Most of the patients were undoubtedly of the lowest class, and extremely ignorant. They came from a great distance, from the most remote parts of the country, to be cured. To see a real living king, was with them far more wonderful than to see a spirit: for in those days spirits were common; but there was only one king in the land. If then we place ourselves in their position,—if we consider the excitement and delight, with which they looked forward to their journey to the capital,—if we consider what implicit faith they placed in the power of the royal touch; can we wonder that so many were cured? Have we in the Pharmacopeia, any remedies that possess powers, either as alteratives or tonics, equal to such a state of excitement? It is not mere imagination, or if it is, it is imagination working in a manner we can easily understand and explain. The spirits are raised, the languid circulation is quickened, the appetite is improved, and the food is well digested. The enthusiastic loyalty with which Charles II. was welcomed on his return, by his devoted partisans,



undoubtedly increased in a remarkable degree the sanatory powers of his touch.

If we give any credit to the account of these cures, as I think we must, we shall be more ready to accede to that view of the disease which ascribes its origin in many cases to disorder of the digestive organs, such derangements being more than any other under control of the mind. But in order to explain and substantiate these views, we must proceed in a more methodical manner, and may in the first place, consider the causes of scrofula.

Scrofula is of hereditary origin. This may be understood in two senses. The most obvious is, that scrofulous parents transmit the disease to their offspring; i. e. that scrofulous parents have scrofulous children. But it is true also in another sense. Whatever is a cause of permanent bad health in the parent, either father or mother, may produce the scrofulous diathesis in a child. Bad habits of living, giving rise to disorders of the digestive organs; the abuse of mercury; the venereal disease; habits of intemperance, may all be causes of scrofula in the offspring.

In such cases, the children are feeble from birth, the textures of the various organs are soft and flabby, the organs themselves small and of feeble powers, with a tendency to sudden morbid enlargement.

But scrofula is not always hereditary or congenital; it sometimes originates in an individual previously healthy. It becomes an object of enquiry, therefore, what is the cause of the disorder, when it arises thus?

If any proof were wanting of what is generally acknowledged; to wit, the hereditary nature of the affection, we might adduce cases in which tubercles have been found in the lungs of a fœtus, taken from the uterus of a tuberculous parent, who died during labour.

There is no particular temperament upon which scrofula is attendant. The characters which have been generally assigned to scrofulous subjects however, are—light coloured, very fine hair, skin thin and delicate, under which the vessels are seen meandering, and often giving an appearance of great delicacy of complexion and beauty;—eye-lashes long, pupils dilated, fingers long and thin, but broad and flat at the extremities; tumidity, or thickness of the upper lip, and some thickening of the point of the nose, are marks of scrofula. The countenance is often swollen, the complexion sallow, and the cheek full, tumid, and flaccid. These appearances however, are the consequences, and not the precursors of scrofula. Black hair and eyes, and dark complexions, are met with nearly as often in the subjects of scrofula, as the opposite characteristics. An appearance of languor and debility is the most common attendant of the diathesis.

It is particularly a disease of childhood. Dr. Good, characterises it as “appearing in infancy or youth; subsiding on mature age.”

Its first and most common symptom is indigestion. The child



of an unhealthy or infirm parent; or one that has been brought up by hand, and improperly attended to, or suffered to remain in an impure atmosphere, early shows symptoms of the disease, and some will generally be observed before the tenth year. Dentition is often the exciting cause, or the occasion on which it manifests itself. This is painful and difficult. The appetite becomes excessive, sometimes failing for a time, but in general craving and not easily satisfied. The flesh becomes soft and flabby, the child loses his vivacity, has a languid heavy appearance, is indisposed to play, and soon becomes tired. Most frequently he evinces signs of early intelligence, but in other cases he is dull and stupid. He is fretful, and does not sleep quietly; in his sleep, he shows signs of distress which might be mistaken for cerebral affection. The bowels are generally confined, and the motions light-coloured and unhealthy. The constipation often alternates with diarrhœa, attended with light slimy stools. The functions of the skin are badly performed. The tongue is red and covered with spots of a still deeper colour.

In a more advanced period, the throat, fauces and tonsils become affected. Cutaneous diseases of various kinds appear. The eye is the seat of slow inflammations, hordeola, &c. The patient is sometimes subject to hemorrhage, such as epistaxis, dysentery, &c. In short, there are all the symptoms and consequences of imperfect digestion and assimilation; the function of nutrition is badly performed; the coats of the blood-vessels are lax and void of tone, suffering their contents to escape from the minute vessels; absorption is badly performed, languid, and indolent, permitting the formation of tumours and other morbid growths. In early youth, this state of the system manifests itself in tumours on the neck, and in various parts of the body. These tumours are of an indolent nature, remain long stationary, but at length come to suppuration, and form open ulcers or fistulæ, which are difficult to heal. At a later period, tubercles are formed in the lungs.

The lymphatic glandular system is generally considered as the particular seat of scrofula: although every tissue of the body is liable to become affected. The glands in the neck and mesentery, the spongy parts of the bones, and the lungs, are especially liable to become affected.

We have alluded to two theories, with regard to the origin and nature of scrofula. One places it in disorder of the digestive functions, particularly of those of the liver. The other places it in congenital debility. There is a third theory, which considers scrofula as a state of ill health produced by a deficient supply of red blood, and a consequent preponderance of white fluids and tissues. The different forms of the disease are, according to this view, only local exhibitions of irritation, modified by the predisposition; but which irritation, in healthy subjects, would at most produce simple inflammation. The manner in which it is transmitted from parent to offspring, is accounted for on this principle, by the deficiency of the red tissues being transmitted. It may occasionally

pass over one generation, and appear in the next, (upon the same theory,) because the intervening generation has not been exposed to the causes, such as privation of light, fresh air, wholesome food, &c. which call the scrofulous diathesis into action.

The first of these opinions is supported by high authority—that of Sir Astley Cooper. According to him, the character and origin of scrofula is debility; the disease in its progress becomes inflammatory, but it is connected with original weakness. Scrofulous diseases undergo all the different processes of inflammation, the adhesive, the suppurative, and the ulcerative, and sometimes, though more rarely, the gangrenous. All these processes are irregularly performed. The adhesive matter secreted in scrofulous affections, instead of being firm, consists of a curd-like substance, easily broken and very soft, and this is owing to the blood-vessels not entering it. The suppuration contains curd-like matter, and is not truly purulent. Ulceration is slow in its progress; granulations are unequal and slow in forming. These processes are the effect of inflammation, but they are imperfectly performed, owing to debility. Scrofulous differs from chronic inflammation from its being congenital. Chronic inflammation occurs after growth has stopped; scrofulous during growth. The blood is less firm; the crassamentum loosely formed and coagulates weakly, the quantity of serum abundant, and the solids are feebly formed. There is extreme attenuation of the muscles, owing to their fibres being delicately formed; the cellular tissue thin; the heart weak, and not having the appearance of a healthy organ. The arteries have loose coats and easily give way, so that an injection will not reach the extreme vessels. The membranes of the stomach and intestinal canal are thin and pellucid; the absorbent glands enlarged, the secretory glands flaccid but not diseased, and the nervous system sometimes exhibits marks of irritation. According to Sir Astley, the liver and the kidneys are not affected.

Sir A. Cooper, both in his description and in his treatment of the disease, goes farther than most men, in considering it the result of debility; farther, may we say, than consistency warrants? He considers that the particular affections are the result of inflammation; and most other writers think, that on that account it requires antiphlogistic treatment, as long as inflammatory symptoms are present. He however, recommends a highly nourishing, and even stimulant diet in every case. It is probable, nevertheless, that in practice, he would make exceptions to this plan of treatment, which the brevity with which his ideas are communicated to us prevents: were it otherwise, we should not venture to dispute his precepts. What we derive from him, are the lessons of sound judgment and experience, not of theory.

The views of this distinguished surgeon we understand then to be, that the subjects of scrofula are born with the organs feebly formed; loose in their texture, generally of small size, and incapable of the vigorous performance of their functions. This account

of the disease does not disagree with the probability of the feebleness being the result of the causes in the parent, which have been mentioned above. Nor does it interfere with the assertion, that it can be obviated, or matured in childhood, by attention to the improvement of the digestive functions, or by means which produce derangement in those functions. If these are well performed, the slight and feeble organs will be strengthened and rendered robust, and will become possessed of vigorous powers; but if the digestion continues languid, it is in vain to attempt to improve the condition of the other functions. Pure air, proper diet, sufficient clothing, exercise in the open air, cold bathing, &c., will increase the tone of the stomach, rouse the digestive powers into activity, through the medium of the skin, and thus remove the debility. Disorder of the digestive functions acts upon those of the skin, and disturbances in the latter cannot long exist without a deranged condition of the former.

According to Mr. Carmichael, disorder of the chylopoietic viscera invariably precedes and accompanies scrofula; and there are grounds for supposing the existence of such a state, in a very great majority of cases, to be the immediate cause of the disease. Mr. Lloyd gives several cases in proof of the effects of bad diet in causing the complaint. Abernethy also attributes it to digestive disorder, and adduces cases of children with scrofulus abscesses cured merely by attention to the digestive organs.

Dr. S. J. Todd, (in his article on Strumous Dyspepsia, in the Cyclop. Pract. Med.) considers scrofula as originating in disorder of the organs of digestion. The phenomena of the disease, he thinks, sufficiently indicate a congestion of the hepatic system. And that the supposition of a plethora in the vena portarum, both in its roots and branches, would sufficiently account for all the symptoms. Hence the condition of the mucous surfaces of the intestines, which are full of blood. The duodenum is especially liable to inflammation. This disposition to abdominal congestion is transmitted from father to son, especially by the dyspeptic and hypocondriac. The views of Dr. Todd are confirmed and supported by Sir James Clark. The latter was the first who called the attention of physicians to the particular state of the digestive organs, in what he calls the *Tubercular Cachexy*. He defines it as,<sup>1</sup> "a morbid condition of the general system, hereditary in some, and in others induced by a series of functional derangements, ultimately affecting the whole animal economy." The digestive organs, he says, are very generally more or less deranged, though the degree and nature of the derangement differ in different cases. It will be understood, however, that while both these writers maintain the invariable, or almost invariable, coincidence of dyspepsia with the strumous diathesis, the theory with regard to the connection of the liver with this condition of the system, is advanced with some

<sup>1</sup> On the Influence of Climate.



degree of hesitation. A plethoric state of the abdominal vessels is allowed to exist by most writers.

Dr. W. Philip remarks, that the sympathy of the lungs with the liver is stronger than with any other organ; hence, he believes, that what are called bilious complaints lay the foundation of half the cases of consumption; affections of the stomach only producing disease in the lungs, by giving rise to derangements in the liver. Now, if it be true, that disordered digestion, originating in, or kept up by hepatic disease, exists in most cases of scrofula, or tuberculous cachexy, we can readily understand why the lungs are the favourite seat of tubercles.

In tubercular phthisis it is well known that the liver is frequently affected. In the post mortem examinations of M. Louis, fatty degeneration of the liver was found in one third of the cases. The liver in these cases is found enlarged, and of less consistence than natural. But great functional derangement of the liver may exist without any organic lesion.

We have thus considered pretty much at length, two of the theories with regard to the origin and nature of scrofula. The third theory, which places it in the preponderance of the white tissues and fluids over the red, we will postpone until after we have considered the causes which may generate the diathesis, in individuals in whom it is not congenital or hereditary. As "what is scrofula?" forms one of the two divisions of our inquiry, a digression and subsequent return to this part of our subject, we hope will meet with indulgence.

**IMPROPER DIET.**—We shall then, in the first place, consider the effect of unsuitable food as a cause of the disease. This alone may not be sufficient to produce scrofula; but combined with other causes it will prove a fertile source of mischief, the final result of which will be the diathesis in question. Fortunate it is for children, that the stomach assumes the office of its own guardian, and readily rejects whatever is liable to offend it. Otherwise how few children would live beyond the period of infancy! The stomach and digestive organs must have a great power, even at the earliest age, of adapting itself to the food which is offered to it. Still, the child must have nutritive food of some kind in sufficient quantity, or the want of it will weaken the stomach and the other organs of digestion, and, through them, the whole system. Moreover, though the stomach will reject improper food, yet the frequent necessity of so doing is attended with permanent injury, and the sensibility of this organ will be either morbidly increased or it will be deadened. Where the food is not so repugnant to the digestive organs as to excite vomiting, a more gradual injury will be occasioned, and the food, imperfectly digested, will be passed on to other organs, and noxious ingredients will be mixed with the blood, and the other fluids of the economy. Chylification is interfered with, and the assimilative functions must suffer. In the robust, healthy child, of

healthy parents, the vigorous performance of the digestive functions will go on for a considerable time, especially if it enjoy pure air, light and moderate exercise ; but eventually, it will lose flesh, and become pale, emaciated and unhealthy. In the case of infants where the mother has no milk or not sufficient for its nourishment, the child more frequently suffers from being injudiciously fed than from want of food. When it suffers from insufficient nourishment, it is most commonly in the case where the mother has sufficient milk, but of poor quality. The effect of the deficiency when this cause occurs, is obvious. The stomach loses its tone, the chylopoietic and the lymphatic vessels their vigour, the body is imperfectly nourished, and languor, emaciation, and *debility* of all the organs and tissues ensues. The effect of too much or too little food is very similar. The stomach and other organs concerned in the first acts of digestion, are deranged and weakened in either case, and do not supply the various parts of the body with nourishment. Hence occurs that state of debility, which is considered as the essence of scrofula : and hence also that want of richness of the blood which gives the preponderance of the white tissues over the rest. We have said that a want of nutritive matter in the milk is a cause of disease in the child ; too rich milk is equally so.

In the child of healthy parents, which is exempt from other causes of scrofula, improper or insufficient food will be more likely to occasion other diseases than this ; but, in proportion as the health of the parents is bad, or the child feeble from birth, and to the degree in which this cause is combined with those hereafter to be mentioned, will be the tendency to produce scrofula. Where there is a predisposition to this condition, a bad diet will readily develope it.

**IMPURE AIR.**—This is the next in importance to that which has just been considered. Dr. Alison attributes more importance to this, than to improper food. It is undoubtedly difficult to ascertain exactly how much each of these causes, and those afterwards to be mentioned, has to do with the production of the diathesis in question, for they seldom exist separately. In the poor Irish families who live among us, can any thing be worse than the diet of the children ? They seldom suffer from deficient food it is true, but it is of the most improper quality. As to their cleanliness, it is much the same with that of the swine, with whom they are sometimes reared ; yet exercise in the open air they have abundantly, and indigestion is comparatively rare. It is our impression that scrofula is rare among this class ; diseases among children certainly are so. They make much fewer calls upon the attendance of a physician, even when that attendance is gratuitous, than parents in the higher and middle classes.

In order that respiration may be properly performed, pure air is essential. Whatever interferes with respiration, prevents the formation of blood suited to the purposes of nourishment. Perhaps there is another way in which an unhealthy or impure air acts upon

the system,—through the cutaneous organs. Pure air as well as cleanliness is necessary to support the tone of the vessels of the skin. In a crowded city, the air is rendered impure by the various substances that become mixed with it, and which cannot be breathed without injury to the lungs. When it is considered that the action of this agent is constant and incessant, although its effects are imperceptible and inappreciable, we cannot hesitate to ascribe to it great importance. Children confined in badly lighted and ill-ventilated apartments, are uniformly unhealthy. Like plants which are kept in the dark, they become blanched and sickly. It is perhaps impossible to understand the effect of light upon the atmosphere, or upon the animated creation, yet we know that it is essential. The respirable quality of the air, it is well known, depends upon the presence of oxygen. This is given out by vegetables, while they are acted upon by the sun, and it is also furnished by the decomposition of water. Hence the air of the country is so much more pure than that of cities, where thousands of lungs are constantly consuming oxygen, and emitting carbonic acid gas. The effect of privation of light is evinced in those whose pursuits confine them to dark apartments, or to labour below ground. The blanched and sickly appearance of such persons, is analogous to that of plants which have been kept in a cellar. The best preventive and cure that has yet been found for scrofula, the only one that has met with the sanction of general experience, is a residence in the country, or in the neighbourhood of the sea shore, where the air is of course free from all sources of impurity. Pure air is the best tonic which has yet been found. M. Baudelocque maintains that impure air is the sole cause of scrofula. In this he goes farther than we are willing to follow him: impure air is undoubtedly a source of much mischief, but there are other causes which operate as powerfully in the production of the diathesis in question. Children who are brought up by hand, in a city, seldom do well; in the country their chance of living and thriving is much greater, because the purity of the air renders the digestive powers more vigorous.

**EXERCISE.**—The necessity of exercise for children, as well as fresh air, is sufficiently understood by the higher and middle classes among us; and a little wagon for the daily use of the child is provided almost as early as the cradle. It is to be feared that among the lower classes, it is not so much attended to. The want of time renders it necessary for them to dispose of their children in the best manner they can, but perhaps in general the same end is answered, as they are carried about from place to place with their mothers. The individuals who suffer most from want of exercise, are females of an older age, and in a superior station in society. Girls at school who are seated at their studies for five or six hours in succession, and whose habits incline them to little active exercise at other times; and even those who have not the advantages of school education, suffer much from the sedentary nature of their avocations. These



are in some degrees necessary evils. The propriety and delicacy which are so highly esteemed in the sex, seclude them from the active sports to which boys are accustomed. In attempting to remedy the disadvantages of their situation, there is danger of occasioning the loss of those graces, and that softness and delicacy which are the peculiar excellences of the female character. As far as it can be done, however, active exercise should be made a part of female education. From their sedentary habits in childhood and youth, arise dyspepsia, scrofula, spinal curvature, and consumption. Hence the much greater frequency of phthisis and scrofula in females. It is unnecessary to enlarge upon the effect of want of exercise. Constipation, indigestion, hepatic congestion, imperfect assimilation, are the well known consequences of this want, and these produce that *debility* in which scrofula consists.

OVER FATIGUE, on the other hand, is a source of scrofula. If a child be over-worked, the system is debilitated, and the functions of digestion and assimilation are weakened, in as great a degree as when exercise is withheld.

IMPERFECT CLOTHING is a cause of the developement of scrofula; for if the minute vessels of the skin are exposed to excessive cold, they cannot perform their proper functions; and hence the blood becomes stagnant in the larger vessels, and produces congestion in the internal organs.

INTEMPERANCE is a prolific source of this diathesis. It is remarked by English writers, that the better diet which the lower classes now enjoy than formerly, is counteracted by the increased use of ardent spirits. It is well known that intemperance is the frequent cause of cachexy, and hence of consumption.

MENTAL AFFECTIONS.—Intense study, by exhausting the nervous powers, deprives the various organs of that proportion of the nervous influence, which is requisite for the proper performance of their functions. Depressing passions or emotions, disappointments, loss of friends, loss of property, and slighted affection, are causes first of that languid state of body and mind, in which the countenance becomes blanched and sodden, the appetite lost, the digestion impaired, and all the functions of the body badly performed. That these causes chiefly affect the female sex, is natural—first, because their habits are more sedentary and secluded; and secondly, because they are not called into the bustle and turmoil of the world, but allowed to meditate upon sorrowful subjects, until grief becomes the permanent habit of the mind. Washington Irving has well and touchingly described the gradation by which death is produced in such cases, in alluding to the instances of females running to waste and self-neglect, and disappearing gradually from the earth, through the progressive stages of mental affection, melancholy, langnor, debility, cold, and consumption.



USE OF HARD WATER.—Cullen, Heberden, Dr. Lambe, and Sir James Clark, are the principal writers who have noticed the use of hard water as a cause of scrofula. Dr. Lambe<sup>1</sup> has gone very fully into this subject. Heberden mentions the case of a patient who became scrofulous, after using hard water for a few years; and continued so as long as he used it, but upon leaving it off, all the scrofulous symptoms left him. The instance quoted in a note to Heberden's remarks on this subject, has been often alluded to. The original is to be found in the memoirs of the Royal Society of Medicine at Paris.

"The inhabitants of Rheims had been so long afflicted with strumous diseases, that they maintained a hospital for the sole purpose of curing such patients. They then made use of no other water than what they had from their wells. After a machine was constructed, which brought the water from a neighbouring river, and distributed it into all quarters of the town, it was observed that scrofulous disorders became less frequent, and in the space of thirty years, the number of these patients was reduced to one half of what it had usually been: it continued to decrease so fast, as to give occasion for thinking that the greater part of the revenues of the hospital might be applied to other purposes."

The effects of the water we drink, as well as the air we breathe, are insensible and inappreciable. Hence it is difficult to convince the sceptical, that impure air and water, or at least water that does not appear impure to the sight and taste, can be in any degree injurious to health. The question, however, is one worthy of more serious attention than it has as yet met with,—how far this is a cause of disease? It is a cause, if it be one, incessantly in operation, and producing its effects gradually and insidiously. The facts mentioned by Heberden and Lambe, prove that water may contain ingredients, which excite or develope a scrofulous habit. The analyses of chemists show that much matter is to be found in it, injurious to health. If in any degree noxious, the constancy with which this cause operates, makes it of very serious importance. Experience has proved that in our city, many persons who have long suffered from dyspepsia have been cured, simply by making use of rain water, instead of that of the wells. Now if the use of hard water is productive of dyspepsia in adults, its action in developing a scrofulous habit in children must be very much greater.

THE ABUSE OF MERCURY leads to the formation of the cachexia in question; and in a similar manner, secondary syphilis when eradicated from the system, will often leave it in a cachectic state, which may truly be considered scrofulous. In a still greater degree will either of these causes operate in producing a scrofulous constitution in the offspring.

Any one of the causes above considered may be insufficient in

<sup>1</sup> Inquiry into the Origin, etc. of Constit. Diseases.

itself to produce scrofula in the healthy child of healthy parents; but in proportion to their combination will the diathesis more or less certainly be induced. Bad diet, impure air, deficient exercise, are each sufficient to develop the disease in those who are predisposed to it from birth.

The predisposition to scrofula in children<sup>1</sup> exists in various degrees. The slightest degree exists when the health of the parent is merely deteriorated, and the child at birth appears healthy. In others, mere functional derangements exist, which, unless they are checked in time, generate scrofula. In the third degree, the child when born exhibits all the marks of the scrofulous diathesis. In the fourth, the scrofulous cachexy is already formed, and the child may die tuberculous. In the fifth, tubercles exist in the lungs at birth.

Although, therefore, a scrofulous diathesis may be originated in the manner which has been described, we do not maintain, that in the majority of cases it is generated in the child, without predisposition. On the contrary we believe, that in the greater number of cases, this diathesis is attributable to predisposition, derived not always from a scrofulous constitution in either parent, but from a state of ill health of any kind. In some families, the elder children have been healthy, and the younger scrofulous, owing to loss of health in the father or mother, between the birth of the former and latter. Disordered digestion, gout, cutaneous diseases, the abuse of mercury, debility, advanced age, weakness of the genital organs; whatever in short may interfere with the processes of generation, conception, gestation, or the nourishment of the fœtus, may produce a predisposition in the infant. Scrofula is particularly the disease of infancy, and the period of growth; after maturity its development is comparatively rare.

It has been remarked by some writers, that where the disease exists in one parent, the child often escapes, and the question has arisen, whether a child may be supposed to partake most of the disposition of his father or mother. Some have attributed the greatest share to one parent, and some to the other; while a third class suppose that a child may be reasonably thought to share most of the parent, whom he most resembles in person.

If now we take a retrospective view of the causes that produce the scrofulous diathesis, we shall find that they are the same with those that produce indigestion, only that they act with more power upon a child who has the hereditary disposition generated in the manner we have described. In such an one, the disease is sooner developed and manifested; but it is not less certain that the same causes operating for a sufficient length of time, will produce the cachexia in question. Indigestion may in many cases be regarded as the first stage of the disease.

If we examine scrofulous patients, we shall almost invariably find

<sup>1</sup> Sir James Clark.

the powers of digestion impaired. A scrofulous person who had a healthy appetite and digested and assimilated his food perfectly well, would be an anomaly; nay more, he would be a contradiction, for where these functions were well performed, the patient could not be scrofulous. But it may be said, scrofula is the cause of dyspepsia, not the effect of it. The *debility* of the system presents perfect digestion, and the digestive organs become involved through the means of other organs, the heart, lungs, etc. However this may be, the imperfect performance of the digestive function must keep up and aggravate the cachexia. As long as no organic lesion has taken place,—as long as there is only debility of the organs, if we can but give vigour to the digestive powers, we may give strength to the whole system.

We may now return to the consideration of the theories of the disease, and particularly to the third which we proposed to discuss; namely, the preponderance of the white fluids over the red. Sir James Clark, in his work on climate, states his belief that a small heart is the frequent predisposing cause of consumption, and in his more recent work, he notices the serous condition of the blood, and its deficiency of fibrine, which has been pointed out by Andral. This condition of the blood has given rise to the views which are briefly stated by Dr. Maunsell, who attributes scrofula to the preponderance of the lymphatic over the arterial system. The strength of the individual, his vital powers, and capacity of resisting disease, he remarks, are in the reverse proportion to this preponderance of the white tissues. It is well known that individuals of sanguine constitution and full of red blood, are the most robust, and that those of a pale, white countenance, are uniformly feeble and unhealthy. Whatever favours the developement of this preponderance of the lymphatic system, is, therefore, a cause of scrofula. Confinement in a damp situation, with a diminution of light and fresh air, is believed by those who hold this opinion to be a principal cause of scrofula.

Neither of these three theories is irreconcilable with the other. Debility from birth is not in all cases a sufficient cause of scrofula. The preponderance of the white tissues is to be attributed to the want of fibrine, and colouring matter in the blood, which may be considered as arising from imperfect digestion: for let the action of the heart and lungs be healthy, still if the stomach and its dependent organs do not perform their functions properly, the blood will not be perfectly formed, and will be deficient in its proper qualities.

That scrofulous children are apt to be of small size, or, if of natural size, with organs small, thin, loose in texture, with feeble capacities for the discharge of their functions, is naturally to be inferred from what has been said of the causes of congenital predisposition—to wit: whatever causes may interfere with the developement and growth of the fœtus. The main difference between the two first mentioned theories is, therefore, that those who hold the



former, place more weight in hereditary predisposition, while the latter allow more to the action of subsequent causes, in the early education and regimen of the child. Those who attribute most importance to the disorder of the digestive organs, do not deny the debility of the organs in many cases at birth. On the other hand, those who place particular stress upon this congenital condition, are willing to allow that it may be corrected, by proper management in infancy. Sir Astley Cooper, considers care and attention in infancy, as important and effectual, as do those who think most of the dyspeptic symptoms.

It is stated by some writers, that scrofula will sometimes lay dormant during one generation, and break out in another. This idea probably originated in the belief that scrofula consisted in an acrid humour. There can be no doubt that an individual may pass through life without evincing any signs of a scrofulous habit, unless it were a delicacy of constitution, and a want of vigour—he may even have tubercles latent in the lungs, without their ever manifesting their existence; merely because he has not been exposed to the exciting causes of the disease; and the offspring of this parent may be scrofulous. But if the descendant of scrofulous parents be vigorous—or if the strumous disposition be counteracted before tubercles are formed, or any organic change takes place—and if he subsequently shows no disposition to scrofula, we cannot readily understand how he can communicate it to his offspring.

Children born of a mother suffering from scrofulous disease at the time of her confinement, have in some cases shown no tendency to the affection: even when the mother has died of it within a short time after their birth.

The essential characteristic of scrofula is the tendency to form tumours, which suppurate and become filled with a matter, which is first pale and watery, but soon becomes thick and yellowish, of a cheesy or curd-like consistence, similar to the strumous or tuberculous matter found in the lungs, and which Dr. Carswell describes, as a pale yellow, or yellowish gray, opaque, unorganised substance; the form, consistence and composition of which vary with the nature of the part in which it is formed, and the period at which it is examined.

These tumours appear in childhood most frequently in the neck in the lymphatic glands, or in the mesentery. At a later period, the breast, the testicles, or the prostate gland, may be affected. The spongy portions of the bones, are next in frequency the seat of scrofula. In childhood, discharges from the ear, from the vagina, and an affection of the eye, are common.

**LYMPHATIC GLANDS.**—The swelling of these glands may be first detected, when they are no larger than a pea. They are hard, moveable, give no pain when touched, and often continue for a great length of time without any increase. When it does begin, its progress is slow, and it often remains one or two years, hard and

not painful, before the skin inflames. It occupies a gland in the neighbourhood of the lower jaw, and frequently there are many glands affected, forming a chain from ear to ear. Sometimes the swelling subsides by absorption or resolution, but, in general, it has a tendency to soften and produce a whey-like fluid. Sometimes the parotid, sometimes the thyroid gland is thus affected. Encysted tumours are formed containing a whey-like or curdy fluid which is sometimes absorbed; and the glands resume their natural size. Suppuration advances slowly, and when the abscess has burst, a sore is formed with indurated edges, which emits a thin fluid, containing curdy flakes, and occasionally small masses of tuberculous matter. An ulcer is thus formed, which it is difficult to heal, and often continues for a great length of time; or heals in one part and breaks out in another. The cicatrices are wrinkled and irregular, often crossed by projecting bands of skin, and producing much deformity. In its early stage, the gland is hard and firm—it enlarges apparently by a thickening of its cellular structure; and soon becomes penetrated by a great number of vessels, and is redder than natural. The whole structure becomes altered and destroyed, and scrofulous matter is deposited in its place.

At other times, the gland is softened, less uniform in texture, and appears composed of two kinds of matter, one resembling curd, and the other softer, less opaque, and of a light yellow colour. A small quantity of pus is found about the centre. Sometimes there are small abscesses containing scrofulous matter, in the body of the enlarged gland. The matter makes its way to the surface and the gland becomes a large abscess. The covering of the gland next inflames, the inflammation spreads to the surrounding parts, and the whole gland becomes destroyed by suppuration. The suppuration sometimes takes place around the new formed matter of the gland, which may be seen through the aperture, by which the contents of the abscess have been discharged. Heberden says that these glands have sometimes continued diseased for twenty years, without coming to suppuration.

The swelling of the glands in the neck often comes on without any known exciting cause, and unattended with other scrofulous symptoms, but it is often preceded by, or attended with, irritation upon the head, or inflammation of the mucous membrane of the nostrils. The irritation extends thence to the upper lip, and by its continuance produces that thickening which is one of the marks of the disease.

**SCROFULOUS MESENTERIC GLANDS.**—(*Tabes mesenterica*). From the period of dentition, until about the tenth or twelfth year, children are liable to an enlargement of the glands of the mesentery, which is generally if not always scrofulous. Next to the glands of the neck, these are said to be most frequently the seat of scrofulous disease. The most marked characteristic of this affection is prominence of the abdomen, attended with emaciation of

the limbs. This sign, however, is not always found, the glands being frequently diseased when there is no decided prominence of the abdomen. Enlarged and even suppurating glands have been met with, where the children have continued in good health and condition until a short time before death. The glands in this situation exhibit the various appearances in the different stages of the disease, that are observed in other parts—from the increase of vascularity, to the formation of pus and of tuberculous matter. Sometimes they are only a little enlarged, reddened, and softer than natural, but otherwise of normal appearance. In other cases, a soft, white, curdy matter, sometimes mixed with pus, is found in them.

Emaciation is the most marked character of the disease: but while the tumours remain indolent, this does not become remarkable. When the glands soften and begin to suppurate, irritation of the abdominal viscera is excited, and a disturbance of the digestive functions induced. The morbid state of the glands probably interferes with the formation of chyle.

The only sure diagnostic of the disease, however, is the perception of the enlarged glands by manual examination, through the walls of the abdomen. This can only be done in an advanced stage.

At an early period it is only to be suspected from circumstances. Any symptoms of intestinal disorder, in scrofulous children, should call attention to these glands. If the patient recovers slowly, is subject to relapses, has a craving appetite and at the same time continues to emaciate, we may suspect an enlargement of the mesenteric glands; especially if these symptoms are attended with fulness and hardness of the belly. The appetite is voracious but capricious, the stools white and chalky, and worms are common.

In the last stage of the disorder, inflammation of the peritoneum and effusion into the abdomen may take place, but inflammation and ulceration of the mucous membrane are more frequent. Pus is frequently found in the stools, and there is constant diarrhœa. The child dies highly emaciated. Tubercles are frequently found in the lungs.

**OPHTHALMIA.**—Scrofulous children are very liable to inflammation of the tunica conjunctiva. The edges of the eyelids are at first slightly red and thickened; and the secretion of the Meibomian glands increased, so as to glue the lids together during sleep. On everting the lids, we find the conjunctiva covering them somewhat redder than natural, while upon the globe a few red vessels are perceived. As the inflammation increases, the membrane becomes more vascular; the eye watering and very intolerant of light. The latter symptom is remarkable; the patient cannot be prevailed upon to raise her eyes to the light, but walks with her head bent down; and acquires a stooping position, that will indicate the existence of the complaint, even when the face is not seen.

In children, (according to Mackenzie) ninety cases out of one



hundred of ophthalmia, are scrofulous. It is very often the first manifestation of a scrofulous constitution. It is most frequent from the age of weaning to about eight years.

The redness of the conjunctiva is at first slight, and often confined to the lids only; sometimes the vessels running from the conjunctiva to the cornea appear slightly injected; in others, enlarged vessels are perceived: so that in the incipient state the disease is distinguished more by intolerance of light, than by any direct signs of inflammation. There is a strong disposition to the formation of pustules, which appear upon many points of the lids, and in the Meibomian glands run to ulceration and produce great irritation. They also appear in the conjunctiva and cornea, and a pencil of red vessels is developed in each cornea; these pustules open, and an ulcer is formed which is sometimes deep, and penetrates into the substance of, or through the cornea. A general dulness or permanent opacity is also produced, which may end in total blindness. The pustules or ulcers may be absorbed, and then, if upon the cornea, they leave a little cloudiness, but this is absorbed in time. Sometimes, after this is removed, a transparent dimple is left in the cornea, which is long in filling up. In some cases, we see the "albugo begin to spread over the cornea in an irregular manner, pretty considerable red vessels running into it, and additional lymph being supplied to it, so as to form a vascular speck, a very tedious and troublesome symptom."<sup>1</sup> The pustules however often break, and as ulcers become very distressing and formidable. They are very painful, especially upon motion of the lids. The excessive intolerance of light is the most striking feature in the complaint, and sometimes exists almost alone. Sometimes, however, very severe pain is felt during the night, so that the child wakes from sleep in great distress. A spasmodic contraction of the lids, and epiphora, are other common symptoms.

Dr. Maunsell notices an appearance which he thinks has not been described by other writers. This is a removal of a patch of the conjunctiva, which covers the cornea, without producing any opacity. It appears as if a piece had been removed with a sharp chisel. This may continue unaltered for a length of time.

The iris is sometimes the subject of scrofulous inflammation: the choroid and retina still more rarely.

**DISCHARGES FROM THE EAR.**—The external ear is very frequently affected in children. The lining membrane becomes inflamed and ulcerated, or affected with pustules, which suppurate and produce a chronic discharge of unhealthy and fetid pus. This is always dangerous, as it may cause ulceration of the tympanum, discharge of the auditory bones, and incurable deafness. Sometimes it involves the petrous portion of the temporal bone, penetrates the

<sup>1</sup> Mackenzie.



cavity of the skull, and occasions sudden convulsions, and certain death.

**SCROFULOUS DISCHARGES FROM THE VAGINA** are of not unfrequent occurrence in children, and are liable to be mistaken for gonorrhœa. They consist of purulent, or muco-purulent matter, and are only to be distinguished by an attention to the general appearance and constitution of the child, in whom we shall generally find other marks of the scrofulous diathesis.

Such are the principal parts which are attacked during infancy. Cutaneous affections of the head are very common, and assume every variety. Porrigio seems to be, at least among us, one of the most common forms. We very frequently see scrofulous children, with a constant discharge from the ears—inflamed eyelids, and the head covered with porrigio.

**BREASTS.**—In females of a more advanced age, both before and after menstruation has occurred, the breast is sometimes affected. Mr. Lloyd speaks of it as rather common. Sir Astley Cooper, whose experience of course is infinitely greater, considers it rare. The natural conclusion is, that the tumours considered scrofulous by Mr. Lloyd and others, are not so considered by him. Dr. Warren has given several cases.<sup>1</sup> He describes it as occurring in young females of slender shape, and weak constitutions, forming a tumour of a flattened rather than rounded shape, smooth on the surface, but irregular on the edges. It is free from tenderness and pain, until suppuration commences. It is of slow growth, and if the patient has good health, and is able to take exercise, it disappears after a time. The skin is not discoloured until after it has begun to suppurate. In some cases it comes on suddenly, inflames, suppurates, and forms a protracted abscess. This often terminates in a fistulous passage, extending deeply into the gland. The production of scrofulous matter must be considered as the test of the nature of the tumour. The gland when first perceived to be affected is a small, hard, moveable lump. It goes through much the same course that has been already described, whilst speaking of the glands of the neck.

**TESTICLE.**—The testicle is subject to scrofulous enlargement, between the ages of seventeen and twenty-two particularly, in two different ways: either from intestinal absorption in the parenchyma, or from a simple expansion in the natural structure of the gland. It is common for small abscesses containing a curdy matter, to form in the substance of the gland, and continue. The substance of the gland between the different abscesses preserves its density. The matter is contained in cysts. In the second form, the gland becomes entirely absorbed, and its place is supplied with caseous

<sup>1</sup> On Tumours.

matter. Sometimes the tumour is made up of several masses, each mass being covered with a cyst. The coats of the testicle continue unaltered. The pain is not severe, until the coats are attacked. Absorption sometimes takes place, the matter is removed, and the gland resumes its natural size. In other cases, suppuration and absorption go on until the whole gland is removed. Sometimes both testicles disappear. Sometimes a superficial abscess forms, and after a time the testicle resumes its natural size. Sometimes fistulæ are formed. When the matter has come away the abscess heals.

**PROSTATE.**—This is also subject to scrofulous enlargement and disease. Dr. Baillie found it, in some cases, converted into a fleshy tumour, with abscesses in the centre. In young men it sometimes becomes enormously enlarged. It is attended with irritation of the urethra and bladder, stricture of the urethra, &c.

**BONES.**—Scrofula, as has been already mentioned, attacks the spongy portions of the bones, such as the heads of the long bones, the bones of the carpi, tarsi, and the bodies of the vertebræ. The vascularity of the affected bone is at first increased; while the earthy matter becomes less. At first, a transparent fluid, and afterwards a cheesy matter, is deposited in the cancelli. The disease often commences in the centre, and the exterior remains hard. Vessels carrying red blood are sometimes seen extending into the cartilage. The cartilage ulcerates in spots, the ulceration beginning on the surface, in contact with the bones, and proceeding slowly. A portion of the diseased bone sometimes exfoliates. As the disease advances, serum and afterwards coagulable lymph, is effused into the cellular membrane about the joint, and produces a puffy elastic swelling, which subsequently becomes œdematous. Then the ligament inflames and ulcerates, the synovial membrane is destroyed in the same manner, and the matter finds its way to the exterior, producing numerous and circuitous sinuses in the neighbouring soft parts. In some cases exfoliation of nearly the whole cartilage takes place, instead of ulceration. Sometimes the disease goes on in the shaft of a cylindrical bone; so that the tibia or the fibula is found converted in its middle into a thin shell of earthy matter, enclosing an unusually large medullary canal. In the last stage of the disease, the bones not only lose the vascularity they have acquired, but that which is natural to them. This is probably the cause of the exfoliations, which sometimes occur, especially in the small bones. In the bones of the fingers and toes, half of the bone sometimes dies away and exfoliates, owing to the diminished supply of blood.

This disease of the bones sometimes occurs in mature life, persons up to the age of forty being occasionally its subjects.

The first symptom perceived is a weakness in the part. Then a dull heavy pain comes on unattended by swelling, and not increased

by motion ; except when the part affected is the knee, hip, or ankle joint. In that case, long standing, or walking for a length of time, increases the pain. Swelling next occurs, producing a fulness about the parts. The soft parts next swell. The swelling is so hard that the head of the bone seems to be enlarged. It has a peculiar rounded appearance, and the skin covering it is tense, smooth, and transparent, the veins being frequently visible beneath. There is now more pain, but still not any of much consequence. It amounts rather to a sensation of uneasiness, than to actual pain. In childhood, the swelling is at first firmer and more circumscribed, than in the adult. The swelling is often the first thing perceived by the nurse. When attention is attracted to it, if the disease is seated in the lower limbs, the child will be observed to limp occasionally, and sometimes complain of pain. The swelling increases, it is puffy and elastic, and greater when the limb has been much exercised. As ulceration goes on in the cartilages, the pain is somewhat but not materially increased. The pain is not severe until an abscess has formed, and the parts over it have become distended and inflamed. The skin then assumes a purple colour. The abscess is slow in its progress, and when opened, or when it bursts, is found to contain a thin pus, with portions of curdy matter floating in it. As the discharge grows less in quantity, it is thicker in consistence, until it assumes the same appearance as the matter found in scrofulous glands. Sometimes the matter forms sinuses, opening at a distance from the joint, and continuing open. From these apertures small pieces of bone are frequently discharged. In most cases, several abscesses form in succession.

The disease may go on for months without creating any constitutional disturbance. In other cases, hectic fever arises, and unless amputation is performed, the patient sinks under it. In others, a curative action arises, and the bones become ankylosed. Unless the disease is arrested early, the cure is always slow and difficult. In the small bones of the hands and feet, it is always more difficult, in consequence of the number which compose the joints.

This affection is distinguished from ulceration of the cartilage, by absence from pain. The patient does not suffer much, excepting when the abscess is just presenting beneath the skin, and its bursting affords immediate relief. At other times there is not much pain, unless from the irritation produced, when a small piece of bone exfoliates, and becomes loose, giving pain by its pressure upon the soft parts. The marks of scrofula in other parts of the system generally assist in the diagnosis ; as does the general appearance of the patient.

In the superficial joints, as the knee and ankle, the character of the swelling assists in the diagnosis. In children, previously to the formation of abscess, it is limited to the immediate vicinity of the affected parts, and has a definite margin. The child commonly keeps the knee somewhat bent, and the condyles of the femur are



seen globular and projecting, and apparently, though not actually, enlarged. This appearance is very characteristic.

In the commencement of the disease, Sir A. Cooper considers that the synovial membrane is first attacked.<sup>1</sup> Sir B. Brodie holds, that the cartilages are attacked before the synovial membrane.

**HIP JOINT.**—Scrofulous disease of this joint is so important, and at the same time its diagnosis is so difficult, that it demands particular consideration. It commences in the long structures; occurs most frequently in children, and is rare after the age of twenty-five. Those children who are most frequently the subjects of it have fair complexions, light hair, blue eyes, and large pupils, and are delicate and precocious. Examined at an early period of the disease, the end of the bone is found altered and softened, so that it can be cut with a knife. The ligaments and cartilages are then quite sound. The cancellous structure of the bone is unnaturally vascular, and a quantity of serous fluid is found in the cancelli. But in more advanced stages the bones become so soft, that they can be crushed together by pinching them with the fingers. They are now less vascular than natural, and a yellow cheesy matter fills the cancelli. This vascularity of the bone goes on diminishing; and in some parts the vessels become so much obliterated that the bone exfoliates. The surface of the bone communicates the disease to the cartilage with which it is in contact. The cartilage loses its firm adhesion, and remains so loosely attached that it may be peeled off with the fingers; and a red vascular surface is observed underneath, which is left a little rough. Ulceration of the cartilage next occurs. It begins on the surface towards the bone, and as it is eaten away, the space formed is filled with coagulated lymph, which becomes organised. Ulceration penetrates a small opening, through which a probe may be passed; it then extends in every direction, and ultimately the cartilage becomes every where destroyed. As the disease progresses, suppuration is established in the joint, but ulceration often goes on to a great extent without the formation of abscess.

**SYMPTOMS.**—The most remarkable symptom is the small quantity of pain that is felt for a long time. This appears to be seated not in the hip, but in the knee joint. The disease often exists in both hips, while no symptoms are discovered, except in one, until after death. The pain never becomes great, until an abscess forms, which sometimes takes place on the inside of the thigh; sometimes backwards, behind the little trochanter, sometimes under the nates; and sometimes through the acetabulum into the pelvis, or into the vagina, rectum, or bladder. The limb is at first apparently lengthened, from the parietes being depressed on the diseased side; but it

<sup>1</sup> Lloyd on Scrofula, Sir B. Brodie's Clinical Lecture.—Med. Gazette. A. Cooper.

afterwards becomes shortened, in consequence of the destruction of the cervix. The toes turn outwards, while the thigh may remain in a line with the trunk.

The first thing that attracts attention is generally a slight degree of lameness. The motion of the joint is impeded; extension is performed with difficulty, and the heel of the diseased side scarcely rests on the ground. There is great difficulty in flexion. When the child attempts to stoop, he bends only the sound knee. If desired to raise his foot to a chair, the effort is so painful that he cannot accomplish it. The rotation of the joint, especially rotation inwards, is impeded. In examining a patient, he should be placed on his back, and the sides of the pelvis compared. That on the diseased side will be found lowest. Bending the knee towards the abdomen gives pain. Great pain is produced by rotation. The patient must then be turned upon his face, and the nates examined. They will generally be found an inch lower on the diseased, than on the sound side. If a line is drawn from the spinous process of the ilium, from one side to the other, there will be a difference of an inch or more.

Dislocation of the limb, upwards or outwards, occasionally takes place. The cavity of the acetabulum is filled up with lymph or pus, or both together. The capsular ligament of the joint in consequence is dilated; the patient having undergone a great deal of suffering from the tense state of the capsule previously. The round ligament is next destroyed by the ulceration, that has already consumed the cartilage. The head of the femur is pushed out of the joint, until it passes beyond the acetabulum, and lodges itself on the dorsum of the ilium. Sometimes, when the head of the femur is dislocated, it will be nearly entire; in other cases, it is partly absorbed. The dislocation taking place in the direction in which the cartilages are destroyed, and being upwards and outwards, the limb is much shortened, and the toes turned inwards. The position in which the child lies, with his knees turned inwards, so as to cross the sound limb, favours the escape of the os femoris, and also the remains of the neck when the head has been destroyed. Sometimes the dislocation takes place in a different direction. Brodie mentions one case of dislocation forward, in which the head of the femur rested upon the pubes. Dislocation is attended with very great danger, and with great increase of the sufferings of the patient. The head or ulcerated neck of the femur, constantly pressing upon the soft parts, produces great irritation.

On dissection, a quantity of adhesive matter is poured out about the joints; the ligaments are much thickened, the synovial surface is inflamed, and often slightly ulcerated; cartilages of the joint ulcerated, and the bone itself sometimes absorbed, not only the head but the acetabulum. Abscesses are frequent; taking different directions, generally down the thigh, between the trochanters and the outer surface. Sometimes they are found in the direction of

the femoral artery, and by their pressure occasion the absorption of a considerable portion of the vessel.

The exciting cause of this disease is generally too much exertion; too long a walk for instance.

SPINE.—Mr. Lloyd describes two forms of scrofulous disease of the spine. The *angular*, and the *lateral* curvature. The former is the principal and the worst, since it arises from the destruction of one or more vertebræ. The body of the vertebræ is destroyed by the same sort of action, that has already been described as taking place in the cancellous structure of the other bones; scrofulous matter being first deposited, and the earthy portion absorbed, leaving, however, the back part of the bone untouched. Hence, incurvation takes place forward, and there is a projection behind. It sometimes begins in the intervertebral substance, sometimes in the bone itself; but, according to Sir B. Brodie, most frequently in the intervertebral cartilage, and at the place where this cartilage is connected with the bone. It is first manifested by the child's complaining of a fixed pain in the spine, which extends down on each side in the direction of the nerves arising from the spinal marrow. There are weakness and pain in the back, pain on the sides, more on one side than the other, and the nerves arising from the spinal marrow, are inflamed in consequence of pressure upon it. The membranes of this chord, sometimes become affected with chronic inflammation, which may extend to the chord itself. The curvature produces a projection of one, two, or three of the spinous processes beyond the others, and the chord becomes incurvated with the spine, and often so much compressed as to prevent the proper performance of its functions. The lower extremities usually become affected, sensibility is diminished, and the muscles lose a portion of their voluntary power. The child is apt to fall down, in consequence of a loss of power in the muscles. The case differs from paralysis, because the powers are not entirely lost, but impaired, and there are spasmodic contractions of the limbs. The patient sits with his limbs drawn under him, and his heels drawn up towards the nates, and there are besides spasmodic twitchings of the limbs. If the lumbar and dorsal vertebræ are affected, there will be difficulty in discharging the urine, and the fæces will at length pass involuntarily. When the disease is in the cervical vertebræ, the head is the only part that retains its power—with the exception of the vital organs: volition is lost in all parts below the seat of the disease.

Mr. Lloyd affirms that there is one local symptom, that invariably precedes spinal curvature, to wit,—the wasting of the muscles of the back. This is evinced in children by their keeping their head bent forward more than natural; by their holding one shoulder raised above the other, and by their disposition to lean or recline when sitting down. In the lateral curvature, there is generally no destruction of parts, but only an alteration of structure.



The connections between the different bones become loosened and relaxed ; and when attention is first called to the complaint, the spine is found curved in the form of an S. The elevation of one shoulder above the other is the first indication of the complaint.

The cure of spinal disease of a scrofulous nature, is accomplished by anchylosis forming from the deposition of new bone, or by the union of the upper and lower surfaces of the bone with each other.

On dissection, the vertebræ are sometimes found partially or wholly destroyed. Occasionally, four or five, or more vertebræ are absorbed. This absorption is the effect of pressure upon the spinal canal. The canal becomes larger, opposite the part at which the vertebræ first give way. When it is cured, the canal is largest opposite the place where the vertebræ have been absorbed.

Disease of the spine very frequently gives rise to psoas, and lumbar abscesses, which frequently occasion a very considerable loss of substance.

**PSOAS AND LUMBAR ABSCESS.**—This often proceeds as above mentioned from disease of the spine. It commences in the ligaments, between these and the surface of the intervening substance. It is often merely an abscess from the above mentioned disease, arising in inflammation of the spine, and the intervertebral substance. The matter spreads until it reaches the origin of the psoas muscle, which ulcerates and forms a bag surrounded by a complete ring. Its symptoms are pain in the loins of several months' standing, and difficulty in extending the thigh. If the patient brings his legs together, he feels pain and tightness in the groins, and increased pain in attempting to bend the limb, in consequence of stretching the psoas muscle. It is liable to be confounded with femoral hernia, from which it is to be distinguished principally by the pain in the loins, and great constitutional disturbance. If the abscess forms upon the side of the vertebræ, instead of the fore part of the limb, it is termed *lumbar* abscess.

**RACHITIS.**—This is commonly preceded by disease of the mesenteric glands. The abdomen is increased in size, while the rest of the body becomes emaciated, the cheeks wan or sallow, and somewhat tumefied. While the emaciation of the body is going on, the head becomes enlarged, so that it may be mistaken for hydrocephalus. This is owing to the softened state of the bones, which are incapable of supporting the action of the arteries of the brain, which push them outwards. The head and forehead are high and expanded, the chin prominent. The sides of the face are brought together, and the whole of the features altered. The spine becomes curved under the weight it has to support, and nature, in endeavouring to restore the perpendicular, makes a second curve. The scapula is projected. The form of the spine and of the ribs is altered. The spine is now curved in two directions. The ribs



are more curved upon one side than the other. The anterior part of the chest is extremely projected. The sternum is sunk between the cartilages of the ribs, and sometimes projects so as to form a ridge. The bones of the limbs also become curved. Absorption at length takes place, and nothing but cartilage is left. The humerus looks as if it had been broken by a fall. The joints are loose and spongy, and keep pace with the head in swelling. There is deficiency of phosphate of lime, throughout all the osseous system, in consequence, as Sir A. Cooper considers it, of a want of power in the circulating system.

**SCROFULOUS DISEASE OF THE LUNGS.**—Scrofula, as is well known, shows itself in the lungs by the production of tubercles. Writers describe three forms of these bodies, which are probably merely different stages of the same. In proceeding from below upwards, they are found in the following order. First, gray semi-transparent granulations. Secondly; granulations more opaque, and yellowish towards the centre, and, thirdly; granulations of a yellowish white, in their whole extent, that is to say, completely tuberculous. The gray granulations are supposed, by some, to be the primary form of tubercles.

The seat of election of tuberculous matter has been proved by Carswell, to be the free surface of the mucous membrane—not the cellular membrane, as was formerly supposed. It can be detected in the blood, in the cells of the spleen, the structure of which organ is particularly favourable for its manifestation. He considers it therefore as a morbid constituent of the blood, which is separated from it by secretion. “The mucous secretion of the lining membrane of the air cells accumulates where it is formed; but it is not pure mucus; it contains a quantity of tuberculous matter, mixed up with it, which after a certain time is separated, and generally appears in the form of a dull, yellow, opaque point, occupying the centre of the gray, semi-transparent, and sometimes inspissated mucus.” This is seen in tubercular peritonitis. When we examine the peritoneum in this disease, the three following stages are well marked. “First, on one portion is a quantity of recently effused, coagulable lymph. Secondly, on another we find the same plastic, semi-transparent substance, partly organised, and including within it, or surrounding, a globular mass of tuberculous matter. Lastly, on another part the coagulating lymph is found converted into a vascular or pale cellular tissue, covered by an accidental serous membrane, beneath which, and external to the peritoneal or original secreting surface, the tuberculous matter is secreted, having the form of a round granular eminence, and resembling in colour and consistence, pale, firm cheese.”

The tuberculous matter originates then in a process similar to that of secretion. It is a “pale, yellow, or yellowish gray, unorganised substance, the form, consistence, and composition of which vary with the nature of the part in which and the period at which

it is examined." It is composed of albumen four parts; gelatine two parts; fibrine eight parts, water (or loss) six parts.<sup>1</sup> One hundred parts of crude pulmonary tubercle were found by Thénard to contain animal matter 88.15; muriate of soda, phosphate of lime, carbonate of lime, 11.85; and some traces of oxide of iron.

Either from the nature of the constituents of tuberculous matter, or the mode in which they are combined, they are insusceptible of organisation.

The softening of the tuberculous matter takes place from the circumference, and is merely a consequence of the changes excited in the living tissues around the tubercle. The parts in contact pour out serosity, and take on an ulcerative action, by which the tuberculous matter is softened and expectorated, leaving in its place a cavity, which, by the successive softening and expectoration of contiguous tubercular masses, becomes gradually increased in size.

According to M. Rochoux, the gray semi-transparent granulations, of the size of a millet seed, are not the primary but the secondary stage of pulmonary tubercles. On examining the lung in the immediate vicinity of a dense and opaque tubercle, at a superficial glance the lung appears perfectly sound, but when it is observed more closely, it will be found to contain tubercles in what is really their incipient state. According to M. Rochoux, an incipient tubercle is a small gelatinous body, not more than the tenth of a line in diameter, of a pearly lustre, and presenting all the intermediate shades of colour between pearly gray and that of jelly slightly tinged red. It does not contain the slightest trace of blood-vessels. When a tenth of a line in size, they adhere to the surrounding tissue by numerous filaments. In the opinion of the same observer, they increase by successive degenerations from the healthy structure by a morbid action of the formative function of the part. As the older structure is absorbed, that formed in its place is tuberculous. When blood vessels are found in it, they belong to the interstitial cellular membrane.

It is not our intention, nor would it be in place, to go into the consideration of tuberculous consumption. As the formation of tubercles and of tuberculous or scrofulous matter, is an essential feature in the disease or diathesis under consideration, some examination into the nature of this production was thought necessary. It does not appear that this is essentially different from that of scrofulous matter formed elsewhere. It seems to be the same substance modified in its appearance and manner of deposition, by the structure in which it is seated. In every part of the body, however according to Dr. Carswell, it prefers the mucous tissue.

**HEART.**—Scrofulous swellings and tubercles have rarely been found in the heart. Wiseman mentions a swelling, weighing two ounces, which was attached to the apex of this organ. In a few

<sup>1</sup> Hecht.

cases, tuberculous matter has been found in the intermuscular cellular tissue. In the phthisical patients examined by Louis, the heart was found not more than one half or two thirds its usual size.

**LIVER.**—Tubercles are not common in the liver. The most frequent alteration of this organ consists in its conversion into the fatty substance that has already been alluded to. Out of forty-nine examples of this fatty degeneration and enlargement, M. Louis found forty-seven in phthisical subjects. Louis only twice met with tuberculous deposition in the liver. Dr. Carswell says it is by no means rare to find this organ affected with tubercles in children, though very seldom in adults.

**PANCREAS.**—Wiseman gives one instance of abscess in the pancreas. Dr. Carswell says he has never seen tubercles in this organ. M. Lombard found them in five out of a hundred cases, in children who died tuberculous.

**SPLEEN.**—According to Dr. Carswell, this organ in children is frequently the seat of tuberculous deposition, but in adults this is rarely the case. Louis found tubercles in seven out of ninety cases. Mr. Lloyd says they generally acquire a larger size than in the lungs, perhaps owing to their not being so liable to induce suppuration. Sometimes they are very numerous, of the smallest size, and diffused through the whole gland.

**INTESTINES.**—The small intestines are of all organs most frequently affected with tubercles, at every period of life. They are often completely studded with them. Ulcerations of the mucous follicles and of the surrounding mucous and cellular textures, were found by Louis in five sixths of the cases he examined. These are preceded by enlargement and induration of the two sets of glands, forming hard, white, cartilaginous granulations, as well as tubercles. The large intestines are found affected in a similar manner as the small, with the exception of the cartilaginous granulations, which are not found.

**KIDNEYS.**—These are very subject to scrofulous action. Tubercles are common, and sometimes exist in great numbers; both kidneys being usually affected, when the deposition has taken place in either. Sometimes the whole kidney has been destroyed, leaving nothing but a bag in its place. M. Louis found the kidney affected in about one half of those who died of phthisis.

**BRAIN.**—Abscesses sometimes occur in the brain and create so little disturbance, that they have been found on examination after death, in subjects who have shown no marks of cerebral irritation during life. Lloyd mentions a case in which several small tubercles, and an abscess the size of a pigeon's egg, was found in the



brain of a young man who died suddenly, without having shown any particular signs of affection of the head during life. Tubercles are not uncommon. They are more frequent in the cerebellum, than in the cerebrum. The spinal chord is sometimes the seat of these depositions, the cervical part being generally preferred. In a few cases they have been found in the lumbar portion. According to Dr. Carswell, tubercles are found in infants, in the cerebrum, and in the cerebellum, oftener than in older children, and in the latter more frequently than in adults.

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### TREATMENT.

Every age laughs at the follies of that which has preceded it. While the wonders and pretensions of alchemy were regarded with contempt in the age of Charles II., and even astrology began to grow out of favour, the age of animal magnetism and homœopathy is disposed to ridicule without mercy the credulity of those who trusted in the power of the Royal Touch.

Are those who believe in the power of specifics, who bring forward new medicines, or revive old ones, for the cure of any particular disease—who waste time, paper, and ink, in setting forth to the medical world the merits of their favourite specific—and who hold that they have detected the grand arcannum, which in some manner, they cannot tell how, is suddenly and infallibly to banish the disease for which they recommend it;—are these men, intelligent, talented, experienced though they may be, one whit wiser than those who formerly wasted their lives in the pursuit of the elixir vitæ?

We have already undertaken to show that the royal touch might have been efficacious upon principles which do not require miraculous agency for their explanation. In the same manner may be explained Dr. Warren's case, illustrating the efficacy of the imagination in the removal of a tumour by the touch of a dead man's hand. The awe excited by the idea of this remedy was probably much the same as that produced by the royal touch; the belief in the certainty of the cure was doubtless complete, (faith being an indispensable requisite in all such cases,) and the subject was dwelt upon for a long time both before and after, producing an impression upon the mind, which could not fail to act powerfully as an alterative and stimulant upon the whole system. Whoever devised this remedy, therefore, was wiser than we should be at first disposed to think him. As the divinity which was formerly supposed to encircle the person of a king, has departed, a dead man's hand, to a person unfamiliar with death, was the best succedaneum. It is very possible that we might find as much wisdom, or *cunning*;

if the term seems preferable, in other superstitions, could we trace them to their origin. As long as a cure was actually accomplished, the end was answered equally well, whether it was done by a medicine or a charm. Even now we are indebted for half the efficacy of our medicines to the faith of the patient. Confidence in the skill of the physician is half the battle. Could we acquire the faculty of operating upon, and controlling the emotions of the mind, we should have at our command more powerful stimulants, alteratives, and tonics, than any the pharmacopœia can furnish. Animal magnetism would give us this power, if the public had but a little more faith, or a little less curiosity—if they would be content with witnessing effects, instead of inquiring too closely into causes.

Upon principles not very different from those which have been alluded to, to wit: the action of the royal touch, animal magnetism, &c.; the grand remedy for the cure of the scrofulous diathesis, the one of most general and proved efficacy—is the removal into the country, or to the sea shore. The excitement of change, the entire alteration of habits, the exhibition of new objects to the mind, of interest and occupation, apart from the effects of pure air and sea bathing, tend to arouse the energies of the system, to excite the appetite, and quicken the circulation. But it is not our present purpose to discuss this remedy. We return to specifics, and to the particular specific for scrofula—*iodine*.

Since the discovery of this mineral, it has been employed universally in this, and occasionally in other diseases; but in this, its use has been general, and it continues as almost an essential prescription. Were it possible to estimate the amount of mischief that has been done by the use of this powerful drug, it would probably be found far greater than that of good that will ever be derived from its employment. But the same remark may apply to arsenic, mercury, antimony, &c.

The best conducted and longest continued series of experiments upon the effects of iodine, seem to be those of M. Lugol. He at first employed it dissolved in water. Half a grain, two thirds of a grain, and a grain, were put into three several quantities of a pound of distilled water each, so as to form three preparations of different degrees of strength; and to these he gave the names of mineral solutions, No. 1, 2, and 3. The commencing dose was half a grain taken daily.

He found the external effects of iodine to consist in a sensation of pricking or smarting. The internal use increased the appetite to such a degree that the hospital allowance of food was insufficient. It acted as a powerful diuretic, often as a purgative, sometimes producing colicky pains. In some instances there was a remarkable degree of salivation, both from its external and internal use. The pains to which it gave rise were appeased by quinine. Far from producing emaciation, he says, it is a powerful stimulant, which revives the organic functions, fortifies the general constitution,

and encourages the growth and increase of size. The general results obtained in the treatment of scrofulous females were as follows :

1. That thin females have acquired a state of *embonpoint*.
2. That corpulent women have not become emaciated.
3. That these in the middle state have lost nothing, but gained increased strength and improved health.

In his first memoir, published in 1829, M. Lugol gives thirteen cases of scrofulous disease of various parts of the body, in which iodine was employed, both externally and internally, with great success.

In his second memoir, he gives an account of his invention of ioduretted baths. He employed troughs of wood as better adapted than metal to resist the action of the mineral. He dissolved six drams of the hydriodate of potash, with three drams of iodine, in twenty ounces of distilled water. This was added to the quantity of water necessary to a bath. It does not appear that the effect of these baths differed from that of the substance applied externally in other forms; only that from the whole surface of the body being exposed to it at once, its action was of course more speedy and more general.

The report of M. M. Magendie and Dumeril in 1831, upon M. Lugol's treatment, is very favourable. They say, "not only have we witnessed the cure of scrofula, in the first and second degree, but we have also seen the successful treatment of the disease in the most aggravated forms."

"Deep seated alterations of the glands, and various other organs, serious lesions of the bones, and their principal articulations, accompanied by the general symptoms which forebode a speedy death, have been perfectly cured in a great number of cases, in the space of a few months, leaving the patient in the best possible state, and free from every vestige of the malady, except the ineffaceable scars it had originally effected. Moreover these results are rendered still more valuable by the fact that the majority of cases subjected to M. Lugol's practice, were previously in a desperate state, and only admitted into his wards, as deplorable examples of the ravages of an irremediable disease."

Subsequently to the publication of his first memoir, M. Lugol abandoned the preparations above mentioned, and gave the iodine with hydriodate of potass, as follows :

	No. 1.	No. 2.	No. 3.
R. Iodin.	gr. $\frac{3}{4}$ ,	gr. 1,	gr. 1 $\frac{1}{4}$ .
Potass. Hydriod.	gr. iss,	gr. ij,	gr. iiss.
Aquæ Distillat.	$\zeta$ viiij,	$\zeta$ viiij,	$\zeta$ viiij. M.

Of this he gives half a grain daily on commencing. In the second fortnight he gives the entire of No. 1, that is three quarters of a grain daily. During the fourth fortnight, or in the beginning of the fifth, he gives a grain daily, and continues this to the end of the



treatment. Sometimes he has increased it to one grain and a quarter, and still more rarely to one grain and a half. Another formula of his for a concentrated solution is as follows:

R. Iodin. *scr. i.*  
 Potass. Hydriod. *scr. ij.*  
 Aquæ Distillat. *ʒviiij. M.*

This mixed with sixteen pounds of distilled water, forms thirty-two bottles of half a pint each of mineral water No. 1. It is also given in doses of six drops, morning and afternoon, in half a glass of water, flavoured with sugar. Every week the daily dose is increased by two drops. For children under seven years, two drops twice daily, gradually increased to five drops. From the age of seven to fourteen, sixteen drops are given twice daily.

His external applications consist in an ointment of iodine and the hydriodate of potass, in the proportion of twelve grains of the former, and two scruples of the latter, to two ounces of lard:—an ointment of the proto-ioduret of mercury of two, three, and four scruples to two ounces of fresh lard:—a solution of four grains of hydriodate of potass, and two of iodine to a pound of distilled water, and for the second and third degrees of strength six and eight grains of the hydriodate, with three and four grains of iodine to a pound of water.

M. Lugol gives also a formula for a rubefacient solution of four drachms of iodine, an ounce of the hydriodate of potass, to six ounces of distilled water, by adding which to a sufficient quantity of warm water, the local ioduretted baths are formed; and one for caustic iodine, composed of one ounce of iodine, and one ounce of the hydriodate, mixed with two ounces of distilled water. This produces small scars.

The good effects of iodine have been confirmed in the work of M. Baudelocque, who published, in 1834, the results of its employment at the Children's Hospital in Paris, and by M. Eager in the Dublin Journal for the same year, who witnessed its results in both hospitals; (*viz.* the Children's Hospital, and Hospital of St. Louis, where M. Lugol attended,) and by numerous other writers.

That benefits have resulted from the employment of this medicine, we think is sufficiently proved by the fact of its continuing so long and so generally in use for this disease. It certainly has not invariably produced the good effects which it appears to have done in the practice of M. Lugol. Dr. Warren, after long trial of it, both in hospital and private practice, seems to consider it as nearly nugatory in its effects as a remedy in scrofula. His reviewer in the Medico-chirurgical expresses his approbation of Dr. Warren's sentiments, and bears his testimony to the degree in which the powers of iodine have been overrated. He says, "because some forms of scrofula have been benefited by iodine, this has been employed in all cases of scrofula, to the neglect of those old and approved measures, stamped as beneficial by established uses, and long continued general assent."



Sir Astley Cooper<sup>1</sup> says in his lectures, "you may lay it down as an axiom, that there is no specific for the cure of scrofula; and he that says there is, attempts to gull mankind by the assertion of what is not true."

These remarks, however, apply to the use of iodine as a specific—as a substitute for all other remedies and modes of treatment; not to its employment in aid of other remedial means, and with more moderate anticipations. We may observe also, that a patient in the wards of a hospital, or residing in a crowded city, is not favourably situated for his cure. M. Lugol employed exercise in the treatment of his patients; but in general, exercise, fresh air, and mental recreation, are not accessible in either of the situations we have referred to.

Sir James Clark, and Dr. Todd, speak favourably of iodine in the treatment of scrofula. The former says, that we are better acquainted with the management of mercury than of iodine, but the operation of iodine appears to be more general. Its action on the uterine system is decided. On the secreting functions of the liver and kidneys, its operation is evident, and it appears to promote the insensible perspiration. It thus diminishes abdominal plethora, promoting the activity of the eliminative functions, and through them of the assimilative. Its beneficial effects upon strumous constitutions, he adds, are undoubted. Under its influence, when judiciously employed, the patient recovers flesh, strength and colour; hitherto pale and feeble, he becomes full, strong and florid; glandular swellings disappear, or are greatly reduced, and the limbs restored to their natural size, and the condition of the whole animal economy is greatly improved.

It is remarkable that some writers consider iodine a tonic, while others, as Dr. Todd, believe it to act especially upon the liver, and as in fact an alterative. Some other medicines are in the same predicament. Mercury is esteemed by some a tonic; while the writer we have just mentioned attributes the favourable effects of the chalybeates in scrofula, not to their tonic, but to their alterative powers. With regard to iodine, from its resemblance in its effects to mercury, from its occasionally producing salivation, &c. we incline to consider it an alterative. That it is not always a tonic, is very certain. We may conclude then, in regard to this drug, that if given as an adjunct to other measures of treatment, with proper precautions, and under proper circumstances, it may be useful, and we would give it in the manner recommended by Dr. Todd, and approved of by Sir J. Clark. This will be described hereafter.

The principles upon which the treatment of scrofula should be founded, are, according to Sir Astley Cooper, 1st. To make better blood. 2d. To strengthen the solids. 3d. To give vigorous action to the circulation. Those laid down by Dr. Todd for the treatment of strumous dyspepsia, are—

<sup>1</sup> Lancet. A. Cooper's Lectures.

1st. To correct the morbid constitution of the body which constitutes the essential foundation of the disease.

2d. To render the function of digestion easy of performance by a regulation of diet suited to the nature of the disease.

3d. To improve the general tone and strength of the system.

The action of the heart and arterics is naturally feeble,<sup>1</sup> the serum of the blood preponderates, whilst the fibrous portion is deficient in quantity: the first object therefore is to make better blood, and without this nothing will be of any avail. The next thing is to strengthen the solids, and give a vigorous action to the circulating system. For the first of these objects, Sir A. Cooper recommends animal food in small quantities, and often. At breakfast between eight and nine, he allows an egg, or a little meat. At 12, a sandwich. Meat at dinner at 3 P. M. He recommends also a glass of good beer or a glass of wine. Water he considers not good; the stomach is imperfectly supplied with gastric juice, and therefore requires to be stimulated. Rest should be taken after eating. For the second object exercise is very important. He mentions having seen at least five hundred cases within a year, and often ten a day, and scarcely a boy among them. Boys he says will take exercise, girls are not allowed to. Without good air, all other means are useless. Air, exercise, nourishment, are the three great points. Medicine, Sir Astley considers as occasionally useful, with a view to improve the digestive powers, and regulate the secretions. From three to five grains of the carbonate of iron, with two grains of rhubarb, may be given to children daily for a short time. Two grains of rhubarb, with from four to six grains of dried sub-carbonate of soda, and ten grains of columba, taken with sugar, is a good preparation for the same purpose. Chamomile infusion with hydrarg. cum cretâ, taken at bed time; or one grain of corrosive sublimate in two ounces of tincture of bark, a teaspoonful twice a day in a glass of chamomile tea. When the bowels are costive, rhubarb may be given instead of bark. The child should be well clothed and wear flannel. A bath of sea water when practicable may be taken three times a week at eleven in the morning. The temperature of the bath should be ninety-four degrees, and it may remain in from sixteen to twenty minutes; after which a walk should be taken. A child may be brought to bear the bath by sprinkling it with tepid water daily. This is the treatment of Sir Astley Cooper.

Dr. Todd advises the application of a few leeches, when there is much tenderness of the right hypochondrium, with febrile excitement and a red and dry tongue. He advises an antiphlogistic diet during the presence of these symptoms, with small but repeated doses of the nitrate of potass, to be given occasionally in a saline solution, or in a carminative or bitter infusion, according to circumstances. Dr. S. speaks highly of the nitrate of potass, which is recommended by Wilson Philip. He considers it partly a substitute

<sup>1</sup> A. Cooper.

for mercury, and by combining it with mercury less of the latter is required. Mercury, Dr. Todd considers as the safest remedy in scrofula. It should be given only in intermitted doses, and not allowed to affect the system. Hydrarg. cum cretâ may be given combined with Dover's powder, when the bowels are too free, or with nitrate of potass, or ext. aloes, when they are confined. In either case it should be followed every morning or every second morning with a teaspoonful of castor oil, electuary of cassia, or sena, or a small dose of sulphate of potass. The mercurial action is promoted by a course of taraxacum or of sarsaparilla. The advantages of mercury, Dr. T. says, are obtained more permanently and effectually by the use of iodine. Where there is no inflammation of the mucous membrane, or but very slight, he considers iodine preferable. Where there is any scorbutic tendency, it is decidedly contraindicated. It should be commenced in small doses, and invariably intermitted for a few days, to guard against any bad effects from its continued use. Dr. T. thinks it probable that the muriate of lime has a similar effect. When the mucous surfaces admit of the employment of chalybeates, they are of great power, and correct the congestion of the abdominal organs. Ferrum tartarisatum alone, or qualified by mixing it with small doses of carbonate of iron, nitrate or sulphate of potass, or still better by giving them in chalybeate water, will be beneficial. Iodine combined with chalybeates Dr. T. considers highly useful: as in the following—

R. Tr. ferri muriat.  
Tr. iodini. aa ʒij.  
Aquæ puræ ʒss. M.

Thirty drops of this mixture, three times a day.

Upon the whole, it may not be difficult to reconcile the plans of treatment recommended by Sir A. Cooper and Dr. Todd, especially if we consider that Sir Astley refers to a more advanced stage of the disease than the strumous dyspepsia of Dr. Todd, in which there is no inflammation present. The principal difference consists in Sir Astley Cooper's enforcing a meat diet, with wine or porter, whereas Dr. Todd, Sir James Clark, Dr. Maunsell, and other recent writers, positively forbid the use of wine and other stimulants; and confine the patient, in the first stages, to an antiphlogistic diet with water, barley water, or toast and water, for drink, until the difficulty of the abdominal organs is removed.

Sir James Clark and Dr. Todd have been the first to call the attention of medical men particularly to that state of the digestive organs which they consider the constant attendant of the strumous or tuberculous constitution.<sup>1</sup> The former declares that the tonic treatment at present adopted, although it may give a temporary degree of strength and tone to the system, very generally tends to augment and confirm the evil it is intended to remove. He considers

<sup>1</sup> On Consumption.



the chalybeates highly useful, but not until the irritation of the gastric system is removed, and the functions of the whole chylipoietic viscera brought into a healthy state. When this has been done, tonics, external and internal, change of air, and other means for exciting and bracing the general system, will prove of the greatest utility. Abernethy's treatment is similar, and may be expressed in very few words, as in his lectures. He directs his patients to go to the sea-side, and attend to the digestive organs. In this short direction, he includes the use of mercury, a nourishing but appropriate diet, and sufficient clothing.

Dr. Todd does not approve of the continuance of an antiphlogistic diet, except during the existence of febrile symptoms. It should never be long continued, and the patient should return to a limited animal diet, which is easy of digestion. As cow's milk seldom agrees well, unless considerably diluted with water, a little beef tea or plain bouillon may be occasionally substituted. Porter, ale, beer and wine, he considers unnecessary, and as better avoided. Fish is very unwholesome.

We are to seek to relieve the congestion of the liver, by increasing the action of the kidneys, by alteratives, and by exciting the cutaneous vessels by a warm sea water bath, by sponging the body with vinegar and water, or salt and water, by the nitro-muriatic lotion, warm clothing and exercise; or when exercise cannot be taken, by friction over the whole surface of the body, for at least half an hour daily. The bowels should be kept open, but not purged.

Chalybeates, as we have already said, will sometimes be required, but the most powerful tonic is unquestionably sea bathing. When it agrees with the patient, that is, when it does not produce languor or chilliness, it will be the most beneficial. The shower bath, cold ablution, exercise in the open air, in a dry healthy atmosphere, either upon the sea shore, or in an elevated country, are the most important points to be attended to. Horseback exercise is of the most advantage, especially for girls who cannot easily obtain sufficient exercise in any other manner. For children, amusing plays and moderate and pleasant occupation of mind should be devised.

One remark of Sir A. Cooper's deserves attention. That the physician who is called in winter loses credit, since the complaint is aggravated on the approach of spring, but subsides during summer. If called in the spring, he will gain credit. In October and November it will become worse, but in winter is better than in the spring.

From the full discussion into which we have entered, with regard to the causes that tend to produce scrofula, where it is not hereditary or congenital; and from what we have now said, we think that our ideas of general treatment of the disease or diathesis, will be sufficiently understood. These are, in brief, that medicinal agents are of little importance in comparison with proper diet, pure air, sufficient exercise and clothing, cleanliness, pure water, sea bathing,



&c. As a substitute for exercise, friction employed for a sufficient time, either with the hand, a flesh brush or a coarse towel, will be useful; but it will not supply the place of fresh air. Where sea water cannot be had, the shower bath, or cold bath, may be substituted, and common salt may be added to the water. The practice of cold ablution which we hope is becoming common among us, is highly advantageous. We consider iodine when used with caution, a useful remedy when an alterative is required. In all cases, the digestive organs must be attended to, and the proper measures taken to restore their healthy action. Where there is much irritability of the mucous coats, mercury will be preferable to iodine. Were we to lay down a general rule, perhaps we should direct mercury to be given in every case, where an alterative was required, because it is more under our control, and we understand its action better. Iodine is hardly yet entitled to any better than the name of an empirical medicine. Nevertheless, there are many cases where it may be used with safety, and with greater advantage than mercury, in consequence of its more general action upon the system.

Sufficient has also been said in regard to the use of iodine for the general condition of the system, to indicate the proper circumstances under which it should be used for local symptoms; we shall not, therefore again return to it, in speaking of the different treatment of the various local forms of scrofula. By M. Lugol and others it is used as a topical application in all these varieties; but the application of iodine to a denuded or delicate surface is unsafe, and its effects as an external remedy are not sufficiently understood, nor its advantages made manifest. If forced to give any rule, as to its external employment, we should say that it might be employed under the same circumstances as mercurial ointment, and we believe that whatever benefit resulted from it, would be attributed to its action upon the system at large.

In every variety of scrofulous affection there can be little use in topical remedies, unless measures are at the same time resorted to for improving the condition of the whole system. Local applications are considered important; but, compared with constitutional treatment, they are of little efficacy. We will briefly allude to the measures resorted to, in the different scrofulous disorders that have been described.

**LYMPHATIC GLANDS.**—The local applications which we employ in this case, are the same as are used in simple inflammation, or in phlegmonous swelling. Cooling or evaporating lotions, composed of, liq. plumbi. subacet. and spirits of wine, or liq. acet. ammoniæ, are directed, with a view of subduing the inflammation and promoting the resolution of the tumour. As soon as suppuration commences, a poultice should be applied. As these swellings, like other scrofulous appearances, occur most frequently in females, it is a great object to prevent their leaving scars. The moment, therefore, the slightest redness and fluctuation appear, a small opening

should be made with a lancet or a cataract knife. The incision should be made transversely in the direction of the folds of the neck. If the opening is not made until the skin becomes of a livid colour, it is best not to use the knife, but to leave the opening to nature, because it will be too late to derive any advantage from an incision. After opening the abscess, all the matter should be carefully squeezed out. During the suppuration of the tumour, rhubarb and carbonate of soda may be given twice a day, and a small quantity of hydrarg. cum cretâ, three or four times in twenty-four hours. After the abscess has opened, if the wound be indolent and indisposed to heal, a solution of sulphate of zinc, about one scruple to a pint of water, may be employed as a wash or injection.

**ULCERS.**—In the treatment of scrofulous ulcers, a similar injection may be employed, when it is requisite to excite action, or we may apply a solution of nitrate of silver, or touch the sores with the solid nitrate. A poultice of bread and water, of hemlock leaves, or sea weed, may then be applied. These ulcers are often extremely obstinate, and when they are large will afford the surgeon no trifling degree of perplexity and trouble, and often call for all the resources of his ingenuity; for as they continue for weeks, months, and even years, in nearly the same state, the practitioner will be thought very remiss if he merely perseveres in the same treatment, which has been found inefficacious. For his own credit and the satisfaction of his patient, he must continually vary his treatment, although he may have little to expect, unless some change can be effected in the constitution of the patient. We recollect a formidable case of a large ulcer upon the leg of a female, which for a long time defied every remedy, slowly increased, and threatened to wear out finally the strength of the patient. A consultation was held, and it was determined to remove the limb. When this decision was communicated to her, it produced a great shock, and she opposed it most earnestly. The operation was delayed, and from that moment the limb began to improve. This might have been accidental, but it is also possible that the sudden and powerful impression upon the mind, produced a reaction or a change in the whole system, and effected what all local and general measures had failed to accomplish.

**MESENTERIC GLANDS.**—The irritation or inflammation of the mucous membrane of the stomach and bowels, or of the glands themselves, is to be removed by antiphlogistic regimen, leeches to the abdomen, and the use of sedative medicines. In all cases, the warm bath and friction over the bowels are useful. Dr. Evanson considers iodine as the principal means of effecting resolution of the enlarged glands. He, however, cautions us against the liability of this medicine to irritate the stomach and bowels, and advises us always to suspend its use when such irritation is present. He gives the concentrated solution of M. Lugol, (vide page 36) in the dose of from one to five drops in sweetened water. When there

is any irritation of the bowels, he prefers the hydriodate of potass, in the quantity of half a grain or a grain, given in the decoction of sarsaparilla—a desert spoonful two or three times a day. A little laudanum or syrup of white poppies added to each dose, lessens the liability to disagree. Dr. Evanson also uses iodine ointment, or an ointment of the hydriodate of lead, ten or fifteen grains to an ounce of lard, which is rubbed upon the skin. The mercurial ointment may be employed in the same manner.

The medicines, especially recommended by Sir Astley Cooper, are one grain of the oxymuriate of mercury, in two ounces of the tincture of bark, or, when the bowels are costive, in the same quantity of tincture of rhubarb; given, as before mentioned, in the dose of a teaspoonful twice a day. He recommends also hydrarg. cum cretâ as an aperient. Where there is much febrile action, antimony and nitre are of great service. Rhubarb may be given with sal. polychrest or sulphate of potass.

As long as febrile or inflammatory action of the system continues, an antiphlogistic diet must be employed, but as soon as this is overcome, animal food may be resumed. Sir A. Cooper, indeed, considers a diet of animal food, prepared so as to be easily digested, the most essential part of the treatment. He also allows wine and water. Evanson and others say, that wine and fermented liquors, if used at all, must be allowed with great caution. The last named writer approves of the use of chalybeates, but thinks them inferior to iodine and its compounds, which he regards as tonics.

**OPHTHALMIA.**—In commencing the treatment of scrofulous ophthalmia, an emetic of antimony or ipecac. is beneficial. From one to four grains of antimony may be dissolved in a pint of water, to which from one to two ounces of salts may be added. Two or three table-spoonfuls of this may be given every half hour, until vomiting is excited; after which the dose is to be repeated every three, four, or six hours, as circumstances may require. This of course is the quantity for adults. For children, antimony, if used, must be adapted to the age of the patient, and must be used with much greater caution. Mr. Travers recommends calomel and antimony, or calomel and opium, with blisters to the neck, and, where there is much inflammation, the application of leeches. A solution of nitrate of silver, quite weak, will be useful in some cases, and the black wash, with or without laudanum, in others; wine of opium in others. In the case of children, it is generally desirable to avoid severe local applications, especially blisters. Dr. Maunsell considers all local applications hurtful, and particularly those of a caustic nature. He advises that a shade should be applied over the eye. When there is much redness or pain, a poultice of bread and cold water, or of alum curd, may be enclosed in a muslin bag, and placed over the eye at night. Three or four grains of sulphate of zinc or alum, to an ounce of rose water, he prefers as an eye water. Ulcers of the cornea, he says, often disappear under the



use of iodine, without local treatment. If the conjunctiva in old cases becomes granular, caustics, such as nit. argenti, or cupri sulph. will be required. M. Lugol injects a solution of iodine upon the conjunctiva, and into the lachrymal fossæ with a syringe. Mackenzie recommends, in adult subjects or older children, evaporating lotions, fomentations, scarification, and stimulants, to the inflamed surface, especially the solid nitrate and red precipitate salve. Ulcers of the cornea may be touched with the point of a pencil of lunar caustic. In cases of central ulcer, belladonna is useful.

**DISCHARGES FROM THE EAR.**—These may be benefited by exciting a discharge behind the ear, by means of a piece of woollen thread, (as recommended by Dr. Maunsell,) smeared with blistering ointment, and placed in the angle between the ear and the scalp. Care must be taken also to wash off the discharge, and keep the part constantly clean.

**SCROFULOUS DISCHARGES FROM THE VAGINA.**—The principal treatment for this must be directed to improve the general health, and to preserve a perfect state of cleanliness.

**BREAST.**—The treatment in this case need not be very dissimilar to that of the diseased lymphatic glands already described. In the first stage, cooling lotions, leeches, decoction of hemlock or poppies, may be employed, and as the swelling advances, a poultice should be kept upon the part. Perhaps a simple poultice, even in the first stage, is as good an application as any. Though always employed to promote suppuration, a poultice does not prevent resolution: on the contrary, it favours this action, when there is any disposition in the part to take it. A poultice made of sea weed is a useful application; in other cases, a plaster of the red oxide of iron may be placed upon the part. As in this case there is not the same necessity of avoiding a scar, it will be better to leave the opening to nature. When this is insufficient to permit a free escape of the matter, it should be enlarged. If the abscess remains long open, and is indisposed to heal, it may be necessary to stimulate it by the use of caustic.

**TESTICLE.**—The weight of the testicle should be supported by a suspensory bandage; and cooling washes or a bread poultice applied to the part. This is said to yield to mercury the most readily of all scrofulous affections. Unguent. hydr. cum camphor. may be rubbed into the scrotum, and blisters be applied to the thigh. The patient must be prohibited from using any exercise, and be kept perfectly still.

**PROSTATE.**—The principal object of local treatment in this case, is to relieve the symptoms that the enlargement of the gland



produces, such as stricture of the urethra, a gleet discharge, pain in passing water, as also frequent desire to do this, &c.

**BONES AND JOINTS.**—The principal object in the management of diseases of the joints, is to prevent motion, to keep the limb in a state of perfect rest. This may sometimes be done by the means of splints and bandages, without preventing the patient from taking exercise. The next thing is to remove inflammation. For this purpose evaporating lotions, spirituous or alcoholic lotions, the liq. subacet. plumbi. or liq. subacet. ammoniæ may be used. Sir B. Brodie advises moderate local depletion at the commencement of the inflammatory symptoms. He does not approve of counter-irritation, unless in case of great pain or spasm. Sir A. Cooper advises it, if the disease advances. Blisters, the tartar emetic ointment, vinegar poultices, issues, and setons, are used for this purpose. Where suppuration has taken place, setons should not be applied over the joint, but at a distance from it, if at all. Blisters of moderate size may be applied over the joint, and kept open with unguent. juniperi. After the irritation has subsided, a splint must be applied, and as soon as the limb is free from irritation, it must be subjected to friction. In scrofulous affections of the joints, return to motion must be delayed longer than in other cases: motion should not be permitted as long as it gives the slightest pain. When the disposition to suppurate has subsided, strips of soap plaster should be placed over the joint, so as to apply moderate pressure to the part. Sir A. Cooper thinks that amputation should never be resorted to, unless there is so much irritation as to threaten life.

**HIP JOINT.**—The main object in this, as in diseases of the joints generally, is to enforce entire rest, and prevent any motion of the joint. If there is much pain, leeches must be applied to the part. Evaporating lotions should be used for a short time. If the inflammation does not yield readily, a large blister should be placed over the joint, and be kept open. Abscesses should be opened as late as possible, and unless very large, ought not to be opened at all, as it exposes the cavity of the joint. To prevent motion of the joint, Sir B. Brodie recommends a splint made of thick, hard leather, which can be softened like the pasteboard splints, by putting it into warm water, and will take any form that is desired. This can be moulded to the hip, and secured by a bandage. As it fits perfectly to all parts, it is very easy to wear. Where the joint is much bent, however, other contrivances answer better. In such cases, a splint may be used formed of wood in a double inclined plane, so as to be adapted to the flexed state of the knee joint, and pass from the thigh to the heel. A fracture bed is also used for the purpose of forming an inclined plane. Sir B. Brodie describes the use of Earle's bedstead in such a manner as to form three inclined planes, one of which raises the shoulders, another the thighs, and a third supports the leg. In this manner, there can be very little motion.

**SPINE.**—Much more can be accomplished in the prevention, than in the cure of spinal disease. The exciting causes of scrofulous caries of the spine must be considered to be the pressure produced by the weight of the trunk, owing to the weakness of the muscles that ought to support this weight. By giving strength to the muscles of the spine, chest, and shoulders, the weight is properly supported and the spine strengthened. These complaints are most common among females, owing to the causes that have been already alluded to.

There are many of the gymnastic games practised in France, and represented in the large work of Delpech, which might perhaps be practised here by young ladies without too great a sacrifice of decorum. The triangle is almost, if not quite, the only machine of the kind that is used among us. Delpech has given representations of a large number of these machines. Such are, the balance, the plays upon the loose rope, the oblique and the horizontal ropes, &c. the object of all which is to accustom the pupil to support the whole weight of her body, by her hands, in climbing, swinging, &c. and thus to give powerful developement and strength to the pectoral muscles, and in fact all the muscles of the back, spine, arms, and chest. By exercises of this kind, employed daily, such an effect is produced, that a greater part of the danger of spinal curvature is avoided. While upon this subject, we may notice an effect of the use of stays, which we have not seen mentioned by any writer but Dr. Barlow in the *Cyclopædia of Practical Medicine*. This is, that by furnishing an artificial support to the upper part of the body, they deprive the muscles of the trunk of their proper office, which consequently obey the general law of the system—that powers which are disused are at length lost. This is an effect not generally understood, it being commonly supposed that all objection to the article of dress in question is obviated by avoiding tight lacing. The games or plays above mentioned have also the good effect of promoting the general health, by giving sufficient exercise, and obviating constipation, a fertile cause of spinal disease. In incipient spinal curvature, they restore the proper form of the spine. In this case, cold ablution, or the shower or common bath, should be used daily. Friction with a brush or coarse towel, should be employed for at least half an hour a day, and exercise in the open air, especially upon horseback, is very important. The use of dumb bells from their being easy to keep at hand is very convenient, and is a very good exercise. In this manner curvature of the spine may be prevented, or it may be removed before caries has taken place to any extent. After this has occurred, an entirely different course must be adopted. The recumbent posture must be observed in order to remove all pressure from the diseased parts, and entire rest must be enforced. In the angular curvature, where the body of the vertebræ has become carious, it is useless to attempt to preserve the form of the spine, as in so doing we defeat the object of nature. It is out of the question to avoid deformity.

The principal object must be to strengthen the system. Where the child cannot be kept in the recumbent posture, a contrivance should be worn for the support of the upper part of the body, fixed upon the pelvis and shoulders. Blisters, setons, &c. often do harm by the irritation they produce.

**PSOAS AND LUMBAR ABSCESS.**—The treatment recommended by Sir A. Cooper, is to open this abscess, as soon as a blush or redness is perceived upon the skin. A small valvular opening is made to discharge the matter, and immediately closed again, and pressure with a bandage applied. He considers the advantage of blisters or setons doubtful. Benefit is often derived from injecting solutions of sulphate of zinc or of alum into the abscess.

**RHACHITIS.**—A bandage should be applied around the head, to prevent the effects of arterial pressure. Exercise is of importance. Two springs of steel may be added to the stays, one upon each side of the spine. When the knees are affected in boys, horseback exercise is of great advantage. Children may be accommodated with rocking horses.

The treatment of scrofulous affections of the heart, lungs, brain, and other viscera, excepting in as far as it is included in that of the scrofulous diathesis generally, would be out of place here, even if any particular local treatment were of service. But as the marks of scrofulous disease of the viscera, with the exception of the lungs, are seldom ascertainable during life, they admit of no local treatment. For the treatment of consumption, we must refer to the many and valuable works upon the subject, of recent date.

March, 1839.





# DISSERTATION

ON

## “THE PATHOLOGY AND TREATMENT OF RHEUMATISM.”

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“*Frustra fatigamus remediis aegros.*”

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There is no name of a disease more familiar to the public, as well as to medical men, than rheumatism; none that an unprofessional man would think more simple and intelligible. Such a one would say, “every body knows what rheumatism is.” Yet, what is rheumatism? Is it a local or a constitutional affection? is it inflammatory or nervous; a disease of the muscles, or the arteries, or the ligaments, or the bones? In what manner does it transfer itself, suddenly and violently, without obvious cause, from one extremity to another, attacking a sound part at a distance from that first affected, and leaving the former, as well as the intervening parts free from disease. Above all, what connection has acute rheumatism with disease of the heart?

Sydenham’s description of the disease is brief. According to him it occurs at any one season, but principally in autumn, and chiefly affects those in the prime of life. It is generally occasioned by exposing the body to cold air, immediately after having heated it by violent exercise, or in some other way. It begins with a chilliness and shivering, which are soon succeeded secondly by heat. Thirdly, in a day or two, or sometimes sooner, there arises an acute pain in some one or other of the limbs, especially in the wrist, shoulder, and knees; which, shifting between whiles, affects the parts alternately, leaving a redness and swelling in the parts last affected. Fourthly, in the beginning of the illness, the fever and the above symptoms do sometimes come on together, but the fever goes off gradually whilst the pain continues and sometimes increases.

Cullen described rheumatism, “as a disease from an external and often an evident cause; pyrexia; pains about the joints, following the course of the muscles; fixing upon the knees and larger

joints, in preference to those of the feet and hands; increased by external heat.

Scudamore says, the fibrous textures of the body are the true seat of rheumatism, and most commonly the tendinous structure is the part affected.

Dr. Good is inclined to the belief that the arteries are concerned in rheumatism, and, in support of this suggestion, he mentions a case furnished by M. Barde.

All authors make a distinction between acute rheumatism, commonly known under the name of rheumatic fever, and chronic rheumatism. Our attention will be given in the first place to the former.

Acute rheumatism is attended with a more violent fever, than corresponds with the degree of local inflammation. The pulse is from 90 to 110, or 120, full, not hard, not tense and incompressible, but compressible and bounding, like the pulse of healthy persons quickened by exercise, and indicative of great arterial action. One writer maintains that there is a peculiarity in the pulse that will alone prove the existence of the disease. The respiration is highly accelerated. The tongue is covered with a white pasty coat, but is not thickly furred. The bowels are costive. The urine is scanty, loaded with urea, uric acid, or lithic acid, reddening litmus paper. It is high coloured, often as dark and thick as porter, and early deposits a copious lateritious sediment. It has been described, also, as resembling the lees of new or sweet wine, or the urine of mares. The skin is hotter than in most other inflammations, but the perspiration takes place freely; and in a day or two it becomes offensively sour, exhaling an extremely disagreeable odour, by which some undertake to distinguish the disease. These perspirations form an essential feature of the complaint. They exhaust the strength of the patient without relieving him. There is great tolerance of venesection, and the patient bears much loss of blood without fainting. The blood is highly cupped and buffed, and continues so after repeated bleedings.

The invasion of acute rheumatism is generally preceded for a week or two by certain premonitory symptoms, which deserve more attention than they have generally met with. These symptoms, (according to M. Roche,) are "malaises" of every kind, congestion in different organs, giddiness, ringing in the ears, bleedings from the nose, burning in the throat, (*chaleurs de la gorge*,) palpitation, oppression, hemorrhoids, &c., all which announce a too fibrinous state of the blood. By Dr. Barlow's theory, the symptoms of plethora must for some time precede rheumatism. These are those above mentioned, and such as belong to the state of false adynamia, that attends too great fullness of the blood vessels—*languor*, debility, &c. Such are the signs by which a patient, who has suffered from rheumatism, may recognise the appearance of a fresh attack, but they are hardly sufficient to point it out where there is no known predisposition to the disease; but when to these

is added a white tongue, fixed or wandering pains in the limbs, and especially in the joints, the nature of the disease is rendered certain.

Dr. Barlow, in the *Cyclopædia of Practical Medicine*, goes into the consideration of the nature of acute rheumatism, as to its constituting a local or a constitutional affection; as to whether the local affection is to be considered prior in its origin, and the exciting cause of the constitutional affection, or whether it is secondary to the latter, and dependant upon some general morbid condition of the system. Dr. Barlow arrives at the latter conclusion, which is in accordance with the opinions of writers, as well as with general practice and experience. For in acute rheumatism it is well known, that topical applications are of little importance, and that the treatment to be efficient must be applied to the constitutional affection. Dr. Barlow, like many others, places the constitutional affection in the blood, and maintains that it arises from plethora. An extraordinary degree of health, he says, always precedes rheumatic attacks. There is a redundancy of nutritive matter in the blood, and hence congestion, producing a state of weakness or false adynamia. Inflammatory fever is first excited by the excess of fibrine, and then rheumatism succeeds. The pains run along wherever the blood is distributed. Venesection is the principal remedy which diminishes the mass of blood, and thus puts an end to the disease, by removing the excess of stimulus. The editor of the *Med. Chirurg. Review*, whose opinions are in general highly judicious, maintains a similar opinion; to wit—that an excessively fibrinous state of the blood is the cause of rheumatism.

“Of all the tribe of the *phlegmasiæ*,” he says, “there is none in which the blood is more seriously altered from a healthy state, than in acute rheumatism. If this be true, and the proofs are so numerous and well known to every experienced physician, that it is unnecessary to enlarge upon them—we are bound to consider the disease as affecting not only the solids but also the fluids—in short, to regard rheumatism as *partly* and to a certain degree a *humoral* disease. The blood has undergone certain changes, the most important perhaps of which seems to be a great and disproportionate increase in the quantity of the fibrinous matter.”

Dr. Alison (*History of Medicine*) says, that the inflammation of rheumatism is strictly specific, although the particular ingredients in the blood cannot be ascertained. That there is something peculiar in the vital constitution of the blood, he considers as rendered extremely probable, by the nature of the peculiarities that most highly distinguish it, by its tendency to affect different parts in rapid succession, by the total absence of suppuration as an effect of this inflammation, by the comparatively increased proportion of the fibrine, and the complete separation of it in the blood, and by the remarkable proportion of fibrine in the exudation produced when it affects the heart.

According to M. Magendie, the blood in acute rheumatism is

thickened and incrassated, the particles of the fluid becoming too gross to pass through the minute vessels. It therefore stagnates in the affected parts, loses its heat, and hence occasions the sensation of cold felt by the patient himself, and sometimes perceptible to the bystander. This theory is in accordance with Boerhaave's general doctrine of inflammation.

John Hunter maintains, that the difference in different inflammations does not consist in the parts they affect; and this he proves from the fact, that in cases of wounds all the parts injured take on the same inflammation. If the wound is closed immediately, skin, cellular membrane, muscle, tendon, &c. all take on the adhesive inflammation. If it remain open, they take the suppurative. We do not have the erysipelatous in the skin, the suppurative in the cellular membrane, the adhesive in the muscular, and the rheumatic in the serous membranes, but we have the same in all. Dr. Hope gives the following reasons for believing that the inflammation of acute rheumatism is peculiar. It will hardly be denied by those who have seen or suffered from it, that it is an inflammation.

I. "The migration to all parts of the fibrous tissue is unique. You see it not in inflammation of any other tissue, nor even in common inflammation of the fibrous tissue."

II. "The very slight tendency to suppuration, ulceration, and adhesion, is peculiar, for all these processes are common in ordinary inflammation of fibrous tissues, as from injuries, &c."

III. "The perspirations are unique, even the whiteness of the tongue is singular."

IV. "The excessive buffing and cupping of the blood, sometimes even after the utmost possible venesection, is extraordinary, and seems to indicate something peculiar in the constitution of the blood."

V. "Experience shows this disease is less certainly and uniformly relieved by antiphlogistic treatment than other inflammations."

"All these circumstances evince, I think, something peculiar, 'specific,' in the system, or if you please in the vital constitution of the blood, which I believe is M. Andral's opinion."

"I have dwelt a little on this subject, because, if the inflammation be specific, we are not rigidly bound, in the treatment, by the ordinary principles of inflammation, if we find them less than usually successful; but are justified in circumspect deviations approved by experience."

M. Roche, also, who agrees with Bouilland as to the extent of blood letting, tells us that it appears certain that in rheumatism, besides the articular inflammation, there is an alteration in the blood, "*qui tient même en partie celle-ci sous sa dépendance.*" The precursory symptoms show, he says, a state of plethora, and consequently prove that the blood is too fibrinous, and that this liquid is become too exciting for the organs with which it is continually put in contact. A simple state of plethora cannot give rise to such



symptoms. The blood, drawn before the articular inflammation is developed, is as highly cupped and buffed as afterwards.

The reviewer of M. Bouillaud's work, in the *Med. Chirurg. Review*, maintains that there always is a peculiarity of the pulse by which alone he can recognise rheumatism. He applies to it the term *fleeting*. It throbs against the finger as strong and full as in other inflammations, but instead of continuing its impulse for an appreciable time, it flies onward with the rapidity as it were of lightning. This is the case whether the patient has been bled or not. The reviewer considers it as expressive of a highly irritated state of the heart, which in his opinion always exists in acute rheumatism.

An additional proof of the alteration of the blood in acute rheumatism may be found in the state of the urine.

From the quotations and references above given, it would seem that if the case is not made out in favour of those who hold the theory of the alteration of the blood, there is at least a very respectable bulk of evidence in their favour. Still, there are many who maintain the reverse opinion, and see nothing specific or peculiar in the affection. M. Bonillaud's opinion appears to be, that rheumatism depends only upon a highly excited state of the circulation.

**DIAGNOSIS.**—It is said by writers generally, that there is no difficulty in the diagnosis of rheumatism from any other disease but gout. The hereditary nature of gout, its proceeding from an internal cause, and its being confined to the smaller joints, while rheumatism prefers the larger—the difference in the pain, and its periodical occurrence, are the most striking marks of distinction. Dr. Gregory observes, that it is by no means easy to distinguish chronic rheumatism of the sclerotica. "Lumbago has been mistaken for nephralgia or lumbar abscess; rheumatism of the intercostal muscles for pleurisy, and sciatica for ulceration within the cavity of the acetabulum." Rheumatism is very liable to be confounded with nervous affections, and nervous affections, on the other hand, mistaken for rheumatism. Neuralgia of the head has of late become a fashionable disease among us, though formerly we heard only of rheumatic headaches. Many of these painful affections are very difficult in practice to distinguish. Dr. Nichols, in his "Annual Discourse," seems to resolve rheumatism into "irritation of the nerves," and to connect it with an affection of the spinal marrow. To distinguish irritation from inflammation is, in many cases, no such easy task. How many poor children have been bled to death in the hydrocephaloid disease of Dr. Hall? How many persons have lost their lives from venesection, in other cases of "irritation from loss of blood," or from similar causes?

The following case came under the observation of this writer. A lady lost her child after undergoing much fatigue in watching, &c. during his illness. She was seen by an experienced physician who had attended her child. She complained of violent pain in

the back and limbs, which he without much examination imputed to fatigue, prescribed quinine and a full diet. She found her pain increase very much under this course, abandoned it, and asked the advice of a medical friend. He found her labouring under acute rheumatism. The pain in the back was severe, particularly at night—coming on after she went to bed. He prescribed low diet, and a large mustard poultice to the back. The next night the disease migrated to the forehead and eyes, and her sufferings became very severe. Leeches were applied with considerable relief. Guaiacum, combined with jalap, was now given as a cathartic, and the low diet continued, under which course the pain abated, and the disease gradually went off.

The writer has often seen neuralgia of the head mistaken for inflammation of the brain.

Rheumatism may undoubtedly attack the neurilema, as has been already said. There is a disease which sometimes comes on as suddenly as a flash of lightning, as in the following case. A. B. was suddenly seized in the evening with a violent pain in the small of the back, extending forward to the walls of the abdomen, affecting the breathing. He said it came on like a musket shot. He had been affected with catarrh for some time previous. The pain was steady, not darting like that in neuralgia. He was freely purged with calomel and jalap, a large sinapism applied to the back, and a pill containing opium, calomel, and antimony, given every two hours. The pain subsided towards evening, and did not return.

Mrs. A. H. while stopping at a friend's house in Boston, on her way from Charleston to Dorchester, was suddenly seized with violent pain in the back. The writer saw her the next morning. The treatment was much the same as in the former case. The sinapism removed the pain in a short time, and on the third morning she was able to set out for home.

Mr. A. Z., while standing in the street, was suddenly seized with a pain in the calf of the right leg. After getting home, the pain continued steady in the same spot; easy when perfectly at rest, but very painful when moved or touched. There was swelling of the whole limb. He was old and his constitution nearly broken up; the confinement, anxiety, and uneasiness, as well as the pain, brought on great disorder of the stomach, which in a few days was succeeded by cough and hemorrhage from the lungs, which were previously weak; and he died about a fortnight after the commencement of the attack. It was remarkable in this case, that the pain was confined to one spot, apparently the fascia of the gastrocnemius muscle, and did not extend from this, or quit its place. He never suffered from pain elsewhere; there was therefore no metastasis to the vital parts, though the pain subsided when the stomach became disordered. When at rest he was free from pain. The complaint was therefore rheumatic.

The nature of the pain in the other cases proves them rheumatic

also. Neuralgic pains are as sudden in their onset, but they are characterised by their shooting, coming on and going off like flashes of light. They are unattended with inflammation. The effect on the system is trifling in comparison to the degree of suffering. The pulse is quickened, but has not the fulness or force of an inflammatory pulse. With regard to the pains, however, the reason that neuralgic or irritative pains are so often mistaken for inflammatory, is, that the patients are in such suffering that they can give no distinct account of their symptoms.

In common parlance, every thing that proceeds from a cold is called rheumatic, and hence, even by medical men, the term is apt to be used as synonymous with catarrhal. Dr. Mackenzie, for instance, as we shall see hereafter, uses the appellations rheumatic and catarrhal ophthalmia as synonymous. But the constitutional condition that precedes rheumatism, its nature, and its seat, sufficiently distinguish it from common catarrh, or the effects of cold.

Dr. Hall, after Chomel, makes the following divisions of rheumatism according to the parts of the body which it affects, thus :

1st. Pia mater and brain.	Rheumatism of the head.	Hemicrania.
2d. Pleura and lungs.	"	" Thorax. Pleurodynia.
3d. Pericardium and heart.	"	" Diaphragm.
4th. Pleura and diaphragm.	"	" Loins. Lumbago.
5th. Peritoneum and liver.		

It is not the writer's purpose to take up these divisions in order. Rheumatism is best described as a disease of a particular texture ; it is too migratory in its nature to be considered as belonging to any particular part, and is much the same wherever found, unless when a vital organ is affected. Dr. Hall does not include rheumatism of the eyes in his divisions ; and it is not described by many writers. Every one must have seen the eyes become affected by migration or metastasis, in a patient suffering from acute rheumatism. The cornea and the conjunctiva are the parts attacked, and the person suffers most excruciating pain. This is not, however, the rheumatic ophthalmia described by Mackenzie, for in that the pain is confined to the coats of the eye. The pain is comparatively slight, and it is unpreceded by constitutional affection. It is in fact merely catarrhal ophthalmia.

Rheumatism of the chest is liable to be confounded with pleurisy. It is distinguished by being more diffused, and attended with great heat. The pain is increased by very slight pressure even upon the sternum. In pleurisy, the pressure to produce pain must be hard and made between the ribs. The rheumatism will also generally be found in some other part of the body.

A form of rheumatism has been described as above mentioned by Dr. Good, and others, affecting the arteries and veins. This is not to be distinguished by any particularly diagnostic symptoms ; it is most probably, as in the case quoted by Dr. Good, connected with pericarditis or endocarditis, and not a primary disease.

Rheumatism of the peritoneum, &c. when violent, may be mistaken



for gastritis or enteritis. It is distinguished by being more increased by motion than by pressure, though the slightest pressure is painful.

SEAT AND PATHOLOGY OF ACUTE RHEUMATISM.—It has been a subject of much discussion, whether the seat of rheumatism is in the muscular, the tendinous, or the synovial system. Scudamore says that the fibrinous structures are the true seat of rheumatism, and most commonly the tendinous texture is the part affected. Whether in a muscle the constituent parts are each primarily affected, or whether it is confined to the tendinous portions alone, he does not determine, though he thinks the latter most probable. Some writers, as Dr. Good, for example, are of opinion that the muscular fibres participate in the disease; while M. Bouillaud and his followers would confine acute rheumatism to the synovial membranes. M. Brachet, of Lyons, Johnson, Macleod, Hope, and many others of eminence, on the other hand, maintain that it is a disease of the white fibrous, not muscular, membranes. This system is expanded over the whole body:—wherever there is muscle, there is aponeurosis, or fascia, or tendon, or periosteum. The fibrous and serous textures, the aponeurotic expansions which cover the muscles, the periosteum, and fibrous coverings of the nerves, the cornea and sclerotic coat of the eye, are, according to them, the parts most frequently affected. Dr. Chambers has drawn a distinction between the *acute* fibrous rheumatism, and the *synovial* rheumatism; and in this distinction he has been followed by Dr. Hope and other English writers. It is probable, that an attentive examination of the early history and progress of acute rheumatism, would show that it is confined to the textures above mentioned, the white fibrous textures. In many cases the affection commences in the middle of the sole of the foot, apparently in a tendon: it gradually extends upwards, the pain being felt in the whole course of the leg, until it reaches the thigh, and produces pain and swelling, not in any particular joint, but equally through the whole limb; the swelling, however, is principally confined to the lower part. Here it will remain stationary, or, leaving this locality, it by migration or metastasis suddenly affects the leg or the arm of the opposite side, as in the case which will be given hereafter. The pain also, in acute rheumatism, is felt not in the joint, but in the course of the limb: often seeming to extend up and down the long bones. Dr. Barlow tells us, “the pains run along wherever the blood is distributed.”

Patients so seldom die during or immediately after an attack of acute rheumatism, that few opportunities can be obtained for examining the state of the joints. A case is copied into the Med. Chirurg. Review, April, 1837, from the Journal Hebdomadaire, in which the history and post mortem examination is given in full. The patient had acute rheumatism of the knees, hips, loins, and afterwards of the ankles and wrist. The heart became affected, delirium ensued, and he died in about thirty-one days from the



commencement of the attack. All the joints which had been affected were carefully examined. The swelling had subsided; there was no trace of inflammatory blush in the synovial membranes, the synovia was in moderate quantities, viscid, semi transparent, and of a yellowish colour, and inodorous. All the component parts of these joints presented no appreciable alteration, either in their consistence, their colour, or their thickness. In the same number of the Review, two cases are mentioned from M. Chomel's Clinical Report. In one patient who died from endocarditis, all the affected joints were minutely examined, but not the slightest mark of morbid change was found in any of them. The other was a patient in the Hôtel Dieu, who died also from endocarditis: the results of the post mortem examination were equally null with regard to the rheumatism. Dr. Macleod says, that in two instances in which he was enabled to examine the state of the parts first affected, owing to the disease having proved fatal by extending to the heart, he found no striking result. "The external redness had disappeared in both cases, and the swelling was very much diminished, so that nothing appeared but a certain portion of serum and lymph, in the subcutaneous cellular membrane. The ligamentous tissues appeared *perhaps* rather thicker than natural, but without redness; the synovial membrane without any apparent participation in the disease." Dr. M. thinks it probable that the ligaments and the other white, dense, fibrous tissues, are the primary seats of the disease, whence it extends to the other tissues. It appears then that this form of the disease does not in general produce any serious organic change in the part in which it is seated. Indeed, from the fugitive nature it evinces, we need not be surprised that this is the case. Notwithstanding the extreme suffering produced, notwithstanding the swelling, heat, and redness, so often witnessed, it has in general no tendency to suppuration, and frequently deserts its seat as suddenly as if by magic, and leaves hardly a perceptible trace behind. In an extremely violent case of acute rheumatism, which will hereafter be related, in which the left hip joint was for several days the seat of extreme pain and spasm; this joint was left perfectly well on the recovery of the patient: but what is singular, the opposite joint has since (though several years have now passed) been the constant or at least occasional seat of weakness and pain, which is felt when particular motions of the limb, which strain the ligaments, are executed.

By some, rheumatism has been considered as affecting the muscular system, at least occasionally. The soreness of the flesh, and the pain which attends any muscular motion, has undoubtedly given rise to this belief, the pain sometimes appearing superficial, and pervading the whole muscular substance. The soreness to the touch is also extreme in acute rheumatism. The swelling, according to Dr. Hope, arises from vascular turgescence, and serous effusions into the fibrous and cellular tissues, and sometimes there is a little synovial effusion into any contiguous synovial membrane,

such as sheaths of tendons, bursæ, &c.—the inflammation extending from the fibrous to the synovial membrane by contiguity of tissue. That the muscular fibre is not the seat of rheumatism, seems to be proved by several circumstances. In the first place, muscle, as far as we know, is not capable of intense pain, while we know that the white fibrous membranes, though nearly insensible in health, become possessed of the most acute sensibility in disease. The rapid migration of the disease also, can be much more readily explained upon the principle of its being seated in the fibrous tissue. The pain, also, is in general, deep-seated, not superficial, (although the external parts are acutely sensible to the touch) but the steady pain that is felt when the limb is at rest, seems to be in the bone, or in the centre of the joint itself. It is probable that the periosteum is often affected, even where the disease is migratory. Scudamore says, that from frequent careful examination of the whole course of a muscle by pressure, the inference has in general clearly presented itself to him, that its internal structure has not been the seat of the complaint. The immediate recovery of muscular action as soon as the disease leaves it, by migration or otherwise, shows that the disease does not affect the muscle; while on the other hand, in a joint affected with articular rheumatism, occasionally pains and difficulty of motion remain for months or years. It is evident, that the pain attendant upon muscular motion or effort, does not show that the muscle is the seat of disease, since the whole joint or limb is excessively swollen and tense, and the muscles cannot contract without pressing upon some diseased tissue. Muscular motion is also attended with motion of the joints.

**RHEUMATIC AFFECTIONS OF THE HEART.**—The tendency of rheumatism to attack the white fibrous membranes, and the continuity and extent of these membranes through every part of the system, accounts for the frequency with which the pericardium is affected by migration or metastasis. The coincidence of an affection of the heart with acute rheumatism was first observed in England by Dr. Pitcairn, in 1788. But the first published observations were contained in Dr. Baillie's *Morbid Anatomy*, published in 1797. Sir D. Dundas published a paper upon the subject, in the first volume of the *Med. Chirurg. Transactions*, in 1808, and Dr. Wells a more copious one, read to a society for medical and surgical improvement, on rheumatism of the heart, with a number of cases in 1810. In France, Corvisart noticed this affection, but still it does not appear to have been treated with much attention either in France or England, until recently. The fatality ascribed by Corvisart to diseases of the heart, and its envelopes, has prevented the belief of its occurrence in many cases of acute rheumatism, which has always been regarded as seldom fatal. It is undoubtedly true, that pericarditis is much less fatal than was formerly supposed, as has been proved by Louis; rheumatism is much more so in its remote consequences—organic disease of the heart being

the frequent ultimate result of a rheumatic attack. Chomel, one of the principal French writers on rheumatism, does not allude to the affection of the heart. Andral, indeed, describes a case which he considers as metastasis, but Laennec, and even Louis, pass it over in silence. In this state of things, M. Bouillaud, writing in 1836, claims the merit of discovering the frequency of this connection. Sufficient has been said to show that this connection was understood in England, and we find allusions to it in most writers upon rheumatism. Still the labours of M. Bouillaud have undoubtedly thrown much light upon the subject, and attracted great attention to its frequency, both in England and France. M. Bouillaud, like most of those engaged ardently in a particular enquiry, has probably been led into the discovery of the disease he looked for, in many cases where it did not exist. He estimates the coincidence of pericarditis and endocarditis, as will be seen, at one half of the whole number of cases of acute rheumatism.

This writer observes that he has found an inflammation of the internal membrane of the blood-vessels, often accompanying acute articular rheumatism.

An acute affection of the heart, he found to be the most usual accompaniment of rheumatism. Pericarditis existed in about one half of the cases. Pericarditis, under a larger point of view, he says, is an inflammation of the sero-fibrous tissues in general, developed under a special influence. He gives ninety-two cases in his work on diseases of the heart, thirty-seven of pericarditis, and fifty-five of endocarditis. Seventeen of pericarditis, and fourteen of endocarditis, corresponded with acute articular rheumatism. Articular rheumatism, therefore, was found to exist in a third part of the cases, but although not observed in the other cases, M. Bouillaud is not confident that it did not exist in the remainder.

Pericarditis, he says, is certain, when the following symptoms are present. A dull sound over the precordial region, much more extended than in the normal condition, (double, triple, in every direction,) an arched form of the same region, remote beatings of the heart, but little or not at all sensible to the touch, sounds of the heart distant, obscure, accompanied with different abnormal sounds, some arising from the rubbing of the opposite coats of the pericardium against each other, others from the complication of pericarditis with valvular endocarditis. A pain more or less acute at that region of the heart, palpitations, irregularities, inequalities, and intermissions of the pulse, are sometimes conjoined with the above symptoms.

Endocarditis, says M. Bouillaud, is certainly coincident with acute articular rheumatism, whenever the following signs are present.

"Bellows, file, or saw sound, in the precordial region, with a dulness of this part on percussion to an extent much more considerable than in the normal state, and which also presents, but in a



less degree, than pericarditis with effusion, an elevation, or abnormal arching; the movements of the heart elevate with force the precordial region; and they are often irregular, intermittent, unequal, and accompanied at times with a vibratory trembling. The pulse is hard, strong, vibrating unequal, intermittent, like the beatings of the heart."

It is often difficult, he says, to distinguish between pericarditis and endocarditis: the distinction is easy, with experience, in well marked cases, but in others it is not so.

Drs. Watson and Latham, say, that pericarditis, &c. accompanies acute rheumatism in all its forms and degrees;—that it is as frequently the attendant of mild cases as severe ones. Dr. Macleod, on the other hand, is, of opinion that the more violent the disease, the more liable is the pericardium to become affected; a conclusion more consonant to probability. There are two principal sounds that denote that the heart or pericardium is affected. Dr. Stokes and Dr. Watson were the first in England to point out the means of recognising disease of this membrane, by the "to and fro" or rubbing sound. This *rubbing* sound is supposed to be produced by the rubbing of the opposite folds of the pericardium against each other; either from a morbid state of dryness or roughness of these membranes. This sound, however, is not perceptible in the early stage of the disease; and it ceases upon the adhesion of the two opposite surfaces, or upon the absorption of the lymph which is the cause of the roughness. The latter cause is most probably the real one. The other sound alluded to is the *blowing* or whizzing, which probably depends upon the increased friction of the blood as it passes through the internal apertures of the heart. This is louder, and sometimes disguises the former. Sometimes it may be heard all over the region of the heart; but it is generally "most distinct at points corresponding with the aortic, and the auriculo ventricular valves of the left side; that is to say, where the relative situation of the parts is not changed by previous disease, the blowing sound will generally be best heard by placing the ear or the end of the stethoscope at the lower part, and towards the left side of the third bone of the sternum for the aortic, and a little further to the left for the mitral valves." This blowing sound is produced by an affection of the valves of the heart.

Drs. Graves and Stokes<sup>1</sup> have recently published the following statement, in regard to the diagnosis of valvular disease of the heart.

"1st. That the physical signs of valvular disease are not yet fully established.

"2d. That taken alone, they are in no case sufficient for diagnosis.

"3d. That even in organic diseases, the *nature and situation* of the murmurs may vary in the course of a few days.

"4th. That all varieties of valvular murmurs may occur *without* organic disease of the heart.

<sup>1</sup> Lancet of August 25th, 1838.



"Fifthly and lastly. That organic disease of the valves may exist to a very great degree without any murmur whatsoever.

"Of this assertion we shall hereafter bring abundant proofs.

R. J. GRAVES.

W. STOKES."

This statement has been replied to by Dr. Hope, in the Medical Gazette; but it is evident that until the signs of valvular disease are universally recognised, they must be considered uncertain.

Dr. Watson says, that when the inner membrane is affected, which very seldom escapes, the inflammation exercises a kind of preference; its effects are limited in a great measure to the valvular apparatus of the heart.

Occasionally, the natural transparent portion of the membrane which covers the muscular fibres is thickened and rendered whitish and opaque, and occasionally, some of the deposits that are common on the valves, encroach somewhat beyond them, and even stud here and there the interior of the several cavities. But the valves, or cartilaginous rings from which they spring, are the parts first and chiefly implicated, especially the mitral valve, and the aortic valves, and not uncommonly the tricuspid valve; also sometimes even the semilunar valves of the pulmonary artery. Here again the fibro-cartilaginous nature of the part would seem to determine the preference of locality.

The valves become thicker, and lose their transparency and pliancy; become puckered—sometimes folded down, or glued to the opposite surface—but more frequently present *vegetations* or small wart-like granulations or excrescences. This is found when death takes place at an early period. At a later period, hypertrophy and dilatation are met with.

One of the principal indications of the occurrence of pericarditis in rheumatism is pain, which is commonly the severest symptom, though sometimes wanting in very grave cases. It varies, also, in kind and in degree. Tenderness on pressure, especially by pressing in the intercostal spaces. Palpitation to any notable degree is often absent, though the action of the heart is increased to 100 or 120. A more important indication that the heart is implicated, is derived from the aspect of the patient. The anxious expression of the countenance, and the evident distress which indicates affections of the heart, are well known. The patient lies, in general, on his back, or a little to the right, but displays the greatest unwillingness to the slightest motion—even in order to assume the easiest position. A frequent disposition to syncope is another characteristic of this affection.

The coincidence of pericarditis with rheumatism was formerly attributed, as in the case given by Andral above alluded to, to metastasis, but this opinion is now pretty much abandoned. The disease does not, at least in all such instances, leave its original seat. Dr. Hope says, he has often seen the heart attacked, while the

disease was in its full intensity in the limbs—he has even seen the heart attacked first. In two cases of acute rheumatism which we purpose to give hereafter, the rheumatism was preceded by an affection of the heart. The extension of the fibrous tissues throughout the system, before noticed, readily explains the manner in which the migration of the disease takes place.

According to Dr. Macleod, and to Dr. Watson, whose opinion he cites upon the subject, this affection occurs principally in very young subjects: the younger the child the more disposed he is to pericarditis.

Out of eighty-five cases of acute rheumatism given by Dr. Macleod, (in the *Med. Chirurg. Review*, January, 1838) the heart was implicated in eighteen, rather more than one fifth. Of these only thirty were females, eleven of whom had pericarditis—one third—and only seven of the men. Of the eighteen cases, there was only one in which the pain of the limbs was simultaneously alleviated on the occurrence of the pericarditis. In one of these cases the pericarditis came on first. Is it not probable, that if the patients more accurately recollected their first symptoms, a precursory attack of the heart would oftener be found?

In regard to the fatality of this affection, we have before remarked, that M. Louis has shown that the fatality of pericarditis or endocarditis has been much exaggerated. M. Bouillaud says, that intense endocarditis is not fatal in many instances even under improper treatment. He adds, however, that those affections ordinarily leave in their train lesions, called *organic*, under which the patient finally sinks. "This takes place when pericarditis has been followed by thickening, indurations, adhesions, vegetations of the valves with deformity, obliteration of these valves, contraction of these orifices, dilatation of the cavities, hypertrophy of the muscular substance, &c." M. B., however, remarks, that endocarditis and pericarditis are less fatal than the true phlegmasiæ, as Stohl says of other rheumatic inflammations. They extend much in surface, but are less in depth. True inflammation, on the contrary, makes up in depth what it wants in surface.

Dr. Macleod treats of acute rheumatism as a very serious affection, and Dr. Hope remarks:

"If then you consider that, independent of the *immediate* danger of pericarditis and endocarditis, an adhesion of the pericardium, or a disease of a valve, so frequently entailed by these diseases, necessarily cripples a man for life, and often contracts his existence within the space of a few years, you will at once see that acute rheumatism, formerly considered harmless to life, is really a disease of the first magnitude and importance, and always to be regarded with anxiety."

The occurrence of delirium or insanity in consequence of an attack of acute rheumatism is not very uncommon. Scudamore, says, as a rare occurrence, the dura mater appears to become the seat of inflammation under this disease, and the tunica arachnoides

becomes excited to increased action. He had seen one case only, that of a young lady of delicate constitution, in whom a rapid transference of the inflammation of the limbs, from one part to another, had taken place previously. The affection of the limbs did not cease when the head became disordered. The event was speedily fatal.

Dr. Hope speaks of this affection of the dura mater as so rare, as hardly to require notice. It has been fully described by Andral, by Dr. Francis Hawkins, by Dr. Latham, by Dr. Watson, and by Dr. Macleod, as an accompaniment to the affection of the heart. It seldom leaves any perceptible trace after death; the membranes of the brain show no decided marks of inflammation.

On the whole, it does not appear that rheumatic pericarditis differs from pericarditis from other causes; indeed Dr. Hope, Dr. Elliotson, and many others—in fact, most of the highest authorities, now consider rheumatism as the most frequent cause of pericarditis.

Dr. Watson says, that the inflammation probably begins in the fibrous texture of the pericardium, and then extends rapidly to the serous. The consequences are, the effusion of serum, the deposition of lymph, adhesions. The inflammation spreads over the greater portion or the whole of the serous surface, and when adhesion does not take place, the deposited lymph assumes a variety of forms in different cases; but in every case Dr. W. has found its prevailing character to be that of roughness. Sometimes it has a cellular arrangement, and is compared to lace work, to a sponge, or a honey-comb, or some specimens of coral, or the interior of a calf's stomach; sometimes it bristles with a multitude of small, short, pointed, papillæ; less frequently it is softer and shaggy, always it is rough or uneven. Dr. Elliotson describes the post mortem appearances as the same as those from inflammation of any other serous membrane. Sometimes there are stars, and sometimes patches, of redness. The redness is seldom deep even in the most violent cases. The membrane does not become thickened, but of course a quantity of fibrine is found lying upon it, and a quantity of serum is collected in the cavity. Fibrine is found generally in very fine layers upon the pericardium, and sometimes these pores, these little singularities—are very considerable. Laennec has compared them to two slabs placed together with butter between them, and then forcibly separated. A number of knobs then appear with little excavations between them. There is often a great deal of this exudation, when the redness is considerable, and it glues together the two portions of the pericardium. The fluid is not in great quantity. Its general appearance is the same as in other serous membranes. It is sometimes turbid, of a yellow colour, containing a few flakes of lymph; but sometimes pus, even in large quantities, and even within the pericardium. Dr. Baillie has found the quantity in one case to amount to a quart. No ulceration is found. The pus, in these cases, is secreted by a serous exactly as by a mucous membrane.

One of the most minute and interesting descriptions of the morbid appearances of pericarditis, has been recently given in the valuable work of Dr. Hodgkin. The secretion of the pericardium, he says, is often preternaturally increased, without sensible alterations, forming hydrops pericardii, which may in general be distinguished from pericarditis by the presence of a few films of false membrane, (or non organisable matter,) in the effusion formed by the latter. The two diseases tend to pass into each other. When the quality as well as the quantity of the effusion is altered, we have either coagulable lymph, or an effusion of a more purulent character. The former leads to the most perfect cellular adhesions. Sometimes, the surfaces of the close and reflected portions become so intimately united as to appear identified, and lead to the supposition that the pericardium is wanting. In other cases the adhesion is looser. In a third variety it is produced by a multitude of filaments, and in a fourth by broad and membranous bands. Bridles of adhesion connecting the opposed surfaces are common. Adhesions are always the result of inflammation. When there is much non-plastic matter effused, their production is prevented; in which case, the surface of the heart is not unfrequently covered with long, shaggy, soft, and very feebly organised villi, presenting an appearance which has undoubtedly given rise to the stories of the heart being found covered with hair. In other cases, in which the adhesion is prevented, the surface of the false membrane presents a reticulated appearance, which has been compared to the *bonnet* or second stomach of the calf. When the matter is of the most inorganisable kind, it has a puriform appearance. Ossific depositions are apt to form upon the attached surface. The pericardium is more prone than any other serous membrane to assume a scabrous appearance. Dr. Hodgkin, who derives his knowledge upon the subject from very numerous post mortem examinations—for which his situation as Demonstrator of Morbid Anatomy, and Curator of the Museum of Guy's Hospital, afforded him remarkable facilities—maintains that the danger from pericarditis is much overrated, and that it is very much more common than has been supposed.

M. Bouillaud maintains that pericarditis or endocarditis usually accompanies acute rheumatism. He says, that in the great majority of cases of diffuse articular rheumatism with fever, there exists, in a variable degree, a rheumatism of the sero-fibrous tissue of the heart; the coincidence is the rule—the non-coincidence the exception. His reviewer, in the *Medico-Chirurgical*, goes farther, and maintains that there is some derangement of the heart in every case of acute rheumatism. Chomel, on the contrary, says that he has tested this matter, and twice only found any other derangement in the heart, after careful examination by auscultation and percussion, than an abnormal sound. He examined forty-nine cases of acute rheumatism, without finding endocarditis, or pericarditis. M. Bricheau says, “we ought not to forget that copious detractions of blood may of themselves induce the blowing, rasping, or



rubbing sounds during the heart's movement, although no inflammation of any of the structures of the heart be present. The blowing sound has been found in a case of peripneumony, where the patient had lost upwards of six pounds of blood ; but exhibited, on post mortem examination, no traces of any disease of the heart. Dr. Elliotson says that pericarditis is most frequently accompanied or preceded by rheumatism, possibly, because the same state of the system produces both diseases, which on the whole seems a more plausible conclusion, than that which considers pericarditis as *caused* by the rheumatism. Pericarditis sometimes appears three or four months after rheumatism. Dr. E. has never seen it the result of suppressed rheumatism. It is always pericarditis that succeeds, and when this has existed for a time, organic changes take place. The affection is most frequent in children, even in infants ; and children are not liable to any organic disease, except that which is produced by scrofula. Pericarditis, according to Dr. Elliotson, may be controlled as easily as inflammation in any other part.

The conclusion that may be drawn from what has been said, and quoted above, is that pericarditis is undoubtedly a much more common disease, and a much less fatal one, than has until recently been supposed—that it most frequently coexists with an acute rheumatic affection, either as the effect of rheumatism or of the same constitutional state as that which produces the latter disease. But it is by no means proved, that acute rheumatism does not ever, or even frequently, exist without pericarditis. With regard to the affection of the valves of the heart, this often succeeds acute rheumatism, very possibly from the same constitutional condition, or as a consequence of pericarditis ; and makes its appearance at a distant period of time. It is, however, to be kept in view, that the causes above referred to, the loss of blood for example, may imitate the sounds indicative of heart disease ; and that when the ear is strongly predisposed to receive certain sounds, it will sometimes be deceived. The same thing may be said of the pulse, when it is felt with reference to peculiar delicate variations, which are perceptible only to certain observers.

Perhaps the true state of the case might be briefly and simply expressed, by saying, that in acute fibrous rheumatism, there is a strong disposition to the affection of the pericardium, or in other words, that the pericardium is highly liable to become affected, in that diathesis or condition of the system which constitutes acute fibrous rheumatism.

The two following cases of acute rheumatism, which have been already referred to, will illustrate some of the remarks that have been made.

Feb. A. B. after having had a cold for some time previous, and having been out of health, and subject to anxiety and depression of spirits, was attacked towards morning with dyspnœa and a stricture about the region of the heart, which rendered it impossible to lie down in bed. This came on for several nights successively,

so that on the third morning he was compelled to rise several hours earlier than usual. The next night, having taken very freely of a hot draught to promote perspiration, he slept quietly until day break, when he was again disturbed, and obliged to stand some time at an open window. In the morning, Feb. 11th, he felt perfectly free from pain in the chest, and oppression. In the course of the day, a pain came on in a spot in the middle of the inner margin of the right foot, apparently at the spot where the tendon of one of the muscles of the foot is attached. This was attributed to wearing new and very thick, stiff boots. This excited little attention. He kept in the house, however, most of the time this day in consequence. 12th. The lameness increased, walked out once during the day upon business, without much inconvenience. In the evening, walked again to a place in a distant part of the city; the weather being cold, and the ground covered with snow. The lameness increased on this walk, and returning, he found himself much lamer at every step, so that it was with difficulty he reached home. On withdrawing the boot, it was found impossible to stand; the foot was very much swollen. Slept well that night. 13th. Could not put the right foot to the ground. At noon, six or eight leeches were applied to the foot. The pain extended up the leg in a direct line. Towards evening a pain was felt in the other leg, the pain continuing in that first attacked. On going to bed took a Dover's powder, and bathed the feet in warm water. The bowels were costive.

14th. Was awake this morning with violent spasms in the left foot and leg, felt principally in the hip joint, and in the toes, which were forcibly contracted. The right limb was nearly free from pain. Took hyd. submuriat. gr. x; jalap. gr. x. M. About ten A. M., was bled freely from the arm, without much relief of the spasms. The spasms continuing after the medicine had operated, took laudanum, and through the night a solution of sulphate of morphine, ad libitum. 15th. Twelve leeches were applied.

17th. The spasms continued, but to-day were somewhat less. Took a warm bath with considerable relief; but imprudently remained in three quarters of an hour, and afterwards being wrapt up in a blanket, and the room kept very hot, most profuse perspiration took place, attended with great weakness and diarrhœa. The diarrhœa was checked by laudanum, but returned, and continued through the night. Partial delirium through the night. After this time, the disease abated. The spasms were less severe, and the patient, whose leg at first had been kept in a straight position by the spasmodic action, having flexed it while in the bath, took the utmost care to avoid extending it. It was some days, however, before the spasmodic action ceased; and afterwards, any sudden noise, the opening of a door, or a very slight mental cause, would bring it on. This spasmodic action was attended throughout with the most intense suffering. While these spasms were continuing in the left limb, and subsequently, the disease was

pursuing the migratory course it had commenced from the first; the arms and legs being attacked successively, one leg swelling and becoming painful as the other was relieved, and one arm in the same manner swelling and becoming painful as the other became free—the wrist being generally first affected, and hence the pain proceeding up to the elbow, and next the shoulder joint, the whole arm swelling, and the pain appearing to be not only in the joints, but in the whole course of the long bones.<sup>1</sup> When the pain ceased, the parts were left numb and palsied. But although one limb was relieved as the other became affected, it was not exempt from repeated attacks. As soon as a joint was affected, a blister or a sinapism was applied, at the earnest desire of the patient, who experienced great relief from the change of pain. The moment they produced their effect by drawing a blister, or exciting considerable irritation, the pain subsided in the part, but soon reappeared in one of its former haunts. The pain felt was of every possible description; it was severe when the parts were at rest, but increased by motion, sometimes sharp and lancinating, sometimes burning, sometimes pricking, sometimes a dull heavy aching. It was in general aggravated by motion; but it was not the fear of pain that caused the loss of the power of motion—it was after they became free from pain, that the temporary palsy took place. It seemed that the suffering had deprived the part for a time of its ordinary functions. The urine was at first almost suppressed; afterwards scanty, bowels confined. Upon the 16th, and several days subsequently, there came on a sensation in the chest, as if of collapse of the lungs, attended by great weariness and exhaustion. This was relieved almost immediately by hot port wine and water. During convalescence a very strict antiphlogistic diet was enforced, and laxatives given when required. No opiates were given after the 17th, although the patient obtained hardly any sleep. The warm bath was repeated once. In a fortnight from the time the attack commenced, he was free from pain, though very much reduced and emaciated. About a week after he left his chamber. In a week later he was able to walk out, four weeks from the commencement of it. The left limb, particularly the hip joint, however, recovered very gradually and slowly; and continued weak and lame for some weeks. Two or three months after this, he first perceived a weakness in the right hip joint, which was felt only on executing certain motions. This has since continued. This joint did not apparently suffer but very slightly during the acute attack. The right shoulder joint has also continued affected in the same manner. For some time after his recovery, slight pains would be felt always after exposure to cold or wet, and what is worthy of attention, a diet a little more stimulant than ordinary would very soon exhibit its effects in the production of pain.

REMARKS.—In the first place, it may be observed, that the patient, who was the reverse of a plethoric subject, instead of having



been in unusually good health previous to the attack, had been for a long time indisposed, subject to indigestion, lassitude, and mental anxiety. This state may possibly, in some cases, be considered as characteristic of plethora, but certainly not of good health. In the next place, the premonitory symptoms from the time that pain commenced in the foot, were striking; and it is probable that had he paid sufficient attention to them, the attack might have been intercepted. They were, however, such as to lead him to apprehend a rheumatic attack; although he had never before suffered from rheumatism. Next the blood letting was probably injurious; venesection is generally injurious in cases of spasm; (except of course where the spasm is manifestly entonic). If instead of the venesection, tartar emetic had been given, alone, (or still better united with opium,) the probability of relief would have been much greater. The nausea or vomiting caused by the antimony, from the relaxation of the system which it produces, would have tended to relieve the spasms, and have prepared the way for the exhibition of opium. Nauseating medicines, particularly antimony and ipecac, are the best we have for overcoming spasm. The narcotics must be given in too powerful doses, and are uncertain in any dose. The opiates given in this case produced great heat and excitement, and rendered the sufferings of the patient more intolerable. Combined with antimony they might have been more successful. The next observation may be considered a trifling one; it is believed, however, to have more importance than will readily be accorded to it. It is simply with regard to position in the case of spasm. If the limb be kept in the extended or straight position, resting on the heel, there can be nothing more favourable for the production and continuance of spasm. Practitioners are apt to be deterred by the idea, that the spasms render it impossible to flex the limb; but if it were even forcibly done, the spasms would, in many probably in most cases, subside. In the present case the limb was kept extended from the 14th to the 17th, but as soon as the patient, when placed in the bath, either from accidental change of position, or from the relief of the spasm afforded by the bath, found his limb slightly flexed, the relief was so great that he had the greatest horror afterwards of straightening his limb, and particularly of allowing it to rest extended on the heel. If this position was accidentally taken for a moment, the spasms instantly returned. (When a horse harnessed in a chaise is hitched by the long reins, it will prevent his going forward, but if he runs back the reins soon begin to pull him, and the further he goes back the harder the reins pull him back. The only way to relieve him, is to seize him by the head and carry him forward in despite of the opposition of the reins. The moment he starts forward they are loosened. It is the same thing with the cords in spasms of the limb. They forcibly extend the limbs, but the moment the latter are flexed their tension ceases.)

Another thing worthy of remark in this case, is the affection of



the chest, which preceded the attack, and which disappeared on the day when the foot first became affected. A case which occurred in the same manner, and pursued a similar course, will be given next.

CASE II. This was the case of a physician. After undergoing a great deal of fatigue and anxiety in a season when the weather was extremely cold, partly on account of the severe illness of some of his own family, he was attacked in the evening with severe pain in the left side of the thorax, oppression, &c. He was purged and blistered. The severity of the symptoms subsided, and on the third day, he was nearly free from apparent disease. Immediately after, however, violent pains came on in the limbs, and with the exception of the spasms, the disease pursued a course parallel with that in the case just described. The principal thing to be remarked is, that as soon as the pain subsided, he was allowed a meat diet and tonics. He had a relapse, was much worse than before, and his convalescence was slow and lingering.

SYNOVIAL RHEUMATISM.—This, as has been before remarked, was first pointed out by Dr. Chambers, of St. George's Hospital, as a distinct form of rheumatism. It differs in many respects from the disease which we have just described. It is a more strictly local complaint. The fever that attends it is not by any means so severe, though in the most acute cases it is considerable. In the severest cases, it is attended with redness, but in general there is no discolouration. It is confined, as its name imports, to the synovial membranes lining the joints. The parts principally attacked are the joints of the fingers and toes, but it displays itself most distinctly in the knee joint. From its attacking the smaller joints, and from other points of resemblance, it has been called rheumatic gout.

It commences with a dull aching pain, and stiffness of the joints. After a time, it becomes more acute or burning, and in a space of from one to several days the parts begin to swell. This swelling is bound down by the synovial membrane, and is confined to the immediate vicinity of the joint, the membrane yielding in particular points, and giving an unequal and peculiar appearance to the swelling. Sometimes the joint becomes enlarged to double or treble the natural size. The swelling is fluctuating and is evidently beneath the capsular ligament; whilst that of acute rheumatism is more superficial, and is seated principally in the cellular membrane; it does not fluctuate, but often pits, as is the case in œdema. Synovial rheumatism affects several joints at once, but it has not the disposition to metastasis or migration, that characterises the acute. It has a tendency to fix itself in a limited number of joints, and become completely local; finally producing, at least after repeated attacks, change of structure, and sometimes suppuration and disorganisation. In general, the principal effect seems to be, an increase of the synovial secretion. Every successive attack leaves

more traces, the joints are left evidently swollen, the ligaments become stretched, the bones altered in their relative situations, and distortion takes place. The synovia is sometimes permanently increased. It is sometimes absorbed, and leaves a thickening of the cartilage. The membrane is left covered with white spots as if sprinkled with a powder. This is found to consist of the carbonate of lime, or lithate of soda.

The functions of the large intestines are not so much disturbed as in acute rheumatism. The perspiration and the urine are more altered than any other of the secretions. Lithate of soda is sometimes found deposited on the skin. The urine is strongly charged with the lithates.

Though the fever is sometimes violent at the onset, it subsides as soon as the effusion becomes considerable, i. e. within three or four days. According to Dr. Chambers, metastasis to the head is more frequent in this variety, while metastasis to the heart is more common in the other. Drs. Watson and Macleod, however, as has been shown, considered the former as generally connected with the latter.

In the account of this variety, the writer has generally followed Dr. Hope. It must be mentioned, however, that the distinction is not generally recognised. The most severe cases of rheumatic fever, are in some cases, attended with affections of the synovial membranes. The two forms blend into each other and are found variously combined.

**CHRONIC RHEUMATISM.**—Chronic rheumatism differs from the acute by being less in degree. Dr. Gregory describes three varieties. The *first*, subacute, is known by the pains shifting their situation as in the acute form, and by their being increased by warmth, especially in the night. The swelling is œdematous. The hips and joints of the lumbar vertebræ are most liable to it. It is accompanied with a white tongue, thirst, a quickened pulse, and a costive state of the bowels.

The *second* form is marked by the absence of the constitutional symptoms. There may be a loss of tone in the vessels of the affected part. This form is not so common as the other, but sometimes follows it. Stiffness of the joints is the most prominent symptom. Pain is not felt except on motion, or on changes of atmosphere. It is relieved rather than increased by the warmth of the bed. The pain and stiffness do not shift. There is spontaneous coldness and sometimes paralytic torpor. The pulse is seldom quick, or the tongue white.

The *third* species is that described by Dr. Haygarth, under the name of nodosity of the joints. It is attended with permanent derangement of their structure. The ends of the bones, periosteum, and ligaments, become thickened, and nodes form upon them, sometimes in such a manner as to distort the joint in the most unsightly manner. The fingers are parts principally affected, but it

occurs also in the knees and ankles. It is accompanied with pain of the joints, particularly severe at night.

The fibrous membranes are the parts particularly attacked in chronic as well as in acute rheumatism, the periosteum in every part of its extent, the tendons, and tendinous sheaths of the muscles, the ligaments around the joints, the neurilema and investing membranes of the teeth, and the sclerotic coat of the eye.<sup>1</sup>

Dr. Johnson has promulgated a theory, in which he does not seem to have been followed by other physicians, to wit; that chronic and acute rheumatism should be considered as distinct diseases. They have, he says, no necessary connection, and are different in their seat, their symptoms, and their cure. The seat of chronic rheumatism, he says, is in the muscular fibres or their investing membranes, while the acute is in the white fibrous substance. The acute disease is in the joints and their immediate neighbourhood, while the chronic is between the joints. Chronic rheumatism, not once in five hundred times, is preceded by the acute. The former does not affect the heart. For these and other causes, Dr. Johnson wishes to substitute the name *arthritis* for that of acute rheumatism, and confine the appellation rheumatism to the chronic form.

In all this, Dr. Johnson does not seem to be governed by his usual good judgment or accuracy. It is matter of common notoriety that those who have suffered from acute rheumatism, are frequently, perhaps generally, subject for years, if not for life, to occasional or constant rheumatic pains and soreness in the parts that have suffered most; and these pains are felt not in the muscles particularly, but precisely in the same situation in which the pains of acute rheumatism were seated. The heart affection which is the result of rheumatism is apt to become chronic. The rheumatic diathesis will undoubtedly in many cases show itself more slowly than in acute rheumatism, and assume the chronic form without being preceded by the acute; but the two diseases are the same in essence, and proceed from the same causes acting under different circumstances, and with different degrees of concentration.

**SUMMARY.**—If then it be asked, what on the whole are the conclusions to be drawn with regard to the pathology of rheumatism? it may be answered:—In the first place, rheumatism is an inflammation. In the second place, there is strong ground for considering it a specific one—or one resulting from some peculiarity in the constitution existing at the time. Thirdly—this seems to consist in an altered state of the blood, which fluid is richer or contains more fibrine than natural. The writer has not entered particularly into the dispute which is now going on between M. Chomel and Bouillaud, with regard to suppuration in acute rheumatism. It is necessary for the substantiation of the theory of the latter, that

<sup>1</sup> Dr. Gregory.

rheumatic inflammation should suppurate and ulcerate, like simple inflammation; consequently his industry and ingenuity is tasked to prove that this is the case. The fact is, however, that it very rarely, if ever, suppurates. An inflammation, as has been said above, sometimes succeeds rheumatism, which produces suppuration in the joints, and this has given rise to the idea that rheumatism suppurates. Fourthly, Rheumatism is generally, if not always, confined to the white fibrous membranes, especially the tendons, and tendinous expansions. Wherever there is muscle, there is a white membrane forming a constituent part of it. As these membranes also pervade every part of the body, every part may be the seat of rheumatism. The pia mater, the pleura, pericardium, peritoneum, cornea, conjunctiva, &c. Fifthly, Pericarditis often precedes, coexists with, or follows, acute rheumatism, either as the result of the diathesis that produces it, or as an effect of the disease itself; but there is no proof that the one is necessarily coexistent with the other, either as cause or effect. If we are always to infer the existence of pericarditis or endocarditis whenever we meet with rheumatism, the conclusion is, that the former is the cause of the latter. But in what way the disease of the heart and its envelopes can produce disease in the remote parts, does not appear very intelligible. There seems to be no necessary connection between the two, such as to make it probable—no mode by which the causation acts. If on the other hand, the heart affection be the effect, there appears to be no necessity for its being constant or general, any more than the affection of the pia mater, or cornea, should be constant or general. The erratic nature of rheumatism should lead us to expect that the parts attacked should be different in different cases. If rheumatism be altogether produced by an external cause, there is still less necessity for its attacking the internal organs. The conclusion is, therefore, that pericarditis or endocarditis, though frequently coexistent with rheumatism, is not necessarily either its cause or its result.

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### TREATMENT OF ACUTE RHEUMATISM.

M. Bouillaud, who maintains the identity of rheumatism with inflammation in general, may be considered as the grand advocate for *venesection*. He practices blood-letting, three, four, five, and seven times, and sometimes eight times consecutively, and from sixteen to twenty ounces each time. Under this treatment the patient is ordinarily cured in from fourteen to sixteen days; whereas formerly it occupied five or six weeks. Dr. Johnson remarks that the accuracy of this statement must be doubted; since it must require three or four weeks to correct the fibrinous condition of the blood. M. Bouillaud's method is as follows.



"The patient on the evening of his admission into the hospital, (provided he be very strong and have a good constitution) is bled to sixteen ounces. From very plethoric patients twenty to twenty-four ounces are sometimes taken, but sixteen ounces is the common dose."

"Second day—two bleedings from the arm, of from twelve to sixteen ounces each, and in the interval between them, leeching or cupping, (the latter by preference) to the extent of twelve, sixteen, or twenty ounces. The cupping glasses are applied around the affected joint or the precordial region, if as generally happens, the heart is implicated."

"Third day—one bleeding from the arm, and the abstraction of twelve to sixteen ounces of blood by cupping from the joints, or from the region of the heart."

"Fourth day. The fever, pus, swelling, &c. have sometimes completely subsided by this day, in which case the farther abstraction of blood is not practised, but should they still exist, he is once more to be bled to the extent of twelve or sixteen ounces."

"Fifth day. Generally speaking the disease by the fifth day is in full progress towards resolution. Sometimes, however, the fever still continues well-marked, and in that case venesection to twelve ounces, or cupping to the extent formerly stated becomes advisable."

"From the sixth, seventh, or eighth day, the patient convalesces rapidly, and may now begin to take food."

"Should a relapse take place, (which will sometimes happen, though not so often as after other methods of treatment,) bleeding may again be necessary. Thus in a case in which the disease had been cut short by four bleedings, the patient relapsed, and before recovery took place, it was found necessary to bleed him again five times."

"Slight relapses may be treated by emollients, abstinence, baths, and anodynes, &c. the disease wearing itself out in a few days."

"To escape relapses, it is of paramount importance that patients guard most carefully against the slightest breath of cold."

It is remarkable that M. B. supports himself by the authority of Sydenham, who in his early practice bled every three days, but who subsequently, regrets that he bled so freely, and states that he had found a limited diet, merely, attended with as good effects, and free from the inconveniences attending his former method of treatment.

Sydenham, in his chapter on rheumatism, gives the following as his method of treatment. As soon as called, he ordered ten ounces of blood to be taken from the arm. The next day he repeated the bleeding to the same quantity, and in a day or two after, according to the strength of the patient, bled again—then interposing three or four days, as the strength, age, and other circumstances of the patient indicated, he bled a fourth time. In his letter to Dr. Brady, at a subsequent period, he mentions that the bad consequences

resulting from the loss of a large quantity of blood, by repeated bleeding, had induced him to search after some other method of curing the disease. Accordingly he found that a diet of whey, used instead of bleeding, had the desired effect. In old persons, and such as have been long accustomed to too free use of wine and spirituous liquors, he considers such a diet unsafe. In this case, he says, it is highly proper to use nearly the same method of cure as before delivered, only he has found by experience that after the second, or at most the third bleeding, it is better to purge often, than to trust to bleeding only, by which means there is a place left for opiates, which otherwise must be refrained from. In his "*processus integri*," he says, "In young persons, and such as live temperately, and drink wine with moderation, the rheumatism may be as successfully cured, by a very cooling and moderately nourishing diet, as by repeated bleedings, which they cannot so well bear." In the case he gives of Mr. Malthus, the whey diet was continued eighteen days, after which it was gradually enlarged.

One of the principal objections that has been made to venesection, is the supposed danger of its producing metastasis to the heart. Dr. Alison, in the *History of Medicine*, in the *Cyclop. Pract. Med.*, says, "he has no difficulty in stating his conviction that large and repeated bleedings increase the tendency to metastasis." But it is now becoming the general opinion that pericarditis or endocarditis is not the effect of metastasis. Dr. Macleod and Dr. Watson remark, that very young subjects, who are most liable to pericarditis, and in whom it most frequently occurs in connection with rheumatism, are the most seldom bled; and that venesection has been rarely practised in France, and was not performed on those subjects in whom M. Bouillaud found pericarditis and endocarditis to occur in so large a proportion of the cases. This seems to be a mistake of Dr. Macleod, for M. Bouillaud's subjects were bled, so that his reviewer in the *Med. Chirurg.*, though a friend to M. Bouillaud's system, draws a directly opposite conclusion. The influence drawn by Dr. Macleod is, that the heart affection has occurred not in consequence of venesection, but from the neglect of it. It is also asserted that the idea of metastasis being produced by venesection must have naturally arisen from the fact, that it is in the most severe cases that blood-letting is employed, and that it is of course in the most severe cases that the affection of the heart or pericarditis occurs.

It may be conceded, that the danger of metastasis, as a consequence of blood-letting, is not so great as has been represented. The writer has seen it employed with the most positive benefit. In the case of a female of nervous disposition, who suffered extremely from acute rheumatism, he exhibited the common remedies, such as cathartics, &c. without relief. She could not bear opium. It produced vomiting, and increased the nervous sensations to the most extreme degree. About the third morning after the attack, the writer was sent for in haste. He found that the pain had left

her limbs. She was now in the utmost agonies from a pain in her eyes and forehead, crying out and begging in the most earnest manner for immediate relief. She was immediately bled to about twelve ounces. The pain instantly ceased. From this time she was free from pain, and in a few days was able to go about her house, and attend to her usual concerns. This case and some similar ones, has led him to doubt, whether it be not better as a general rule, to delay bleeding, and keep it in reserve for such cases as have been mentioned. It has been the rule generally acted upon, that in acute diseases, venesection if required, must be performed as near the onset of the disease as possible; but the authority of Louis has brought this principle into question. It also seems to be the general theory that rheumatism seldom or never occurs, except in the sanguineous and plethoric. In practice, however, we find that those of spare and nervous habits, are nearly if not quite as often attacked—and in these it is evident, venesection is much less proper, and in many cases is highly injurious. Where the patient suffers from spasm, or other strong nervous affections, blood-letting is improper, unless it can be proved that the nervous affection is the result of entony. In the very plethoric and sanguineous, the disease may in some instances be cut short by free venesection. The opinion of Dr. Barlow, that rheumatism is the result of plethora, has been already alluded to.

Nothing can be more ridiculous than the attempt to lay down a general rule adapted to all cases. On the whole, therefore, the best rule, is to be guided by circumstances. "*Nec deus intersit, nisi nodus vindice dignus.*" We should not employ a heroic remedy unless it is decidedly indicated. The plan of repeated and copious blood-lettings, notwithstanding the authority of Sydenham, does not appear worthy of imitation; nor is it very intelligible, notwithstanding all that is said of the tolerance of bleeding in rheumatism, how a copious venesection can leave a patient in a condition to be benefited by another and equally copious one within two or three days. The pain in itself is depriving the patient of his strength as fast as possible. An attack of acute rheumatism, unaided by bleeding, will reduce him in a very short time, to the last degree of weakness and emaciation, and it may be very much doubted, whether weakness is not the best preparation for a transfer or migration of the disease, to the heart or brain; whether the system is not in fact less able to resist such transfer in proportion to its want of strength. Although, therefore, we would not forbid bleeding in all cases, we should object to its employment as a general rule. We should say, *cave ab venesectione.*

It must however be conceded, that the testimony of by far the greater number of the best writers, is in favour of at least one bleeding. Venesection is generally regarded the grand specific. For the neglect of it, we have, however, the names of Cullen, Fordyce, Heberden, Haygarth, Joseph Browne, Elliotson, Alison, Chomel, and Louis, &c. &c.



There is another consideration with regard to blood-letting. It will hardly be denied that the operations of nature are generally sanatory. It is certainly becoming more and more the custom to trust the powers of the constitution, and to watch and aid the operations of nature, rather than interfere with them. We make, "natura duce," our motto, though we often forget it. But if we make it a rule to practise profuse blood-letting, or even to commence the attack upon the disease with copious venesections, we take the case out of the hands of the *vis medicatrix*, and we are responsible for the consequences. We ought, therefore, to be very sure we are right, before we venture upon this course. Sydenham also tells us, that a strict whey diet will cure young and temperate persons full as well, and without the bad consequences of venesection. It seems difficult to account for his having left his sanction upon the heroic use of the lancet. Perhaps, even he felt a lingering attachment to the practice he had for many years employed and advocated, and a degree of shame at confessing, even to himself, that he had been wrong. It is probable that his practice was more essentially modified than his doctrines. With regard to his remarks as to those accustomed to the too free use of wine or spirits; he undoubtedly referred to what are called *good livers*, whose hearty diet renders them plethoric. Those whose constitutions have become debilitated by intemperance, it is well known, are the least able to bear venesection. It is singular that M. Bouil-land remarks, that the cases of Sydenham were probably of long duration. Sydenham did not bleed in accordance with M. Bouil-land's formula.

In cases where the heart or pericardium has become affected, it may be more necessary to bleed. Dr. Elliotson, and Dr. Alison, however, advise local in preference to general bleedings. Here too we must be guided by the nature of the case. The symptoms may be so urgent as to render general blood-letting necessary. The abstraction of blood by leeches and cupping is slow, and considerable time must elapse before they can be applied. The expense attending leeches is also a serious objection among poor patients. A lancet is always at hand, and instant relief may be given. Dr. Watson recommends the use of the lancet in conjunction with mercury. Dr. Seymour, says, he has never in one case omitted venesection without finding cause to regret it.

The next remedy we shall consider is *antimony*. Dr. Haygarth was in the habit of giving antimonial powder, or tartarised antimony, in acute rheumatism, as a preliminary to bark. Enetics of any kind are probably useful in this disease, from their relaxing the system generally, and promoting a tendency to perspiration. In cases where there is a disposition to spasm, there is no remedy more likely to be beneficial. The success which has been found to attend the use of tartarised antimony, in pneumonia, might lead us to the conclusion that the same benefit might result from its use in rheumatism. The free evacuation of the stomach at the onset



of the disease, and the action of vomiting must be of advantage. Some cases were given in the Clinique Médicale of M. Bricheteau, 1835, of the administration of this remedy, but it was employed in union with blood-letting. Pneumonia and acute rheumatism, he says, are the two phlegmasiæ which are the most benefited by the tartrate given in large doses. Scudamore says, that if the patient has been seized in consequence of exposure shortly after eating to excess, an emetic should not by any means be neglected. He employs antimony afterwards in the dose of from one eighth of a grain to a grain, in combination with half a dram to a dram and a half of acetum colchici, carbonate of magnesia, carbonate of potass, sulphate of magnesia, and lemon juice.

Two successful cases have been given by a physician of Montpellier, who exhibited it in doses of a quarter of a grain, and increased it until nausea and diaphoresis were induced.

A physician of experience informs this writer, that he is in the habit of giving antimony combined with laudanum in acute rheumatism. Six grains of the tartrate of antimony are dissolved in eight ounces of water, with from a dram and a half to two drams of laudanum, and given in doses of a table-spoonful every two or three hours. As soon as the specific effects of the drug are produced, the suffering of the patient is relieved. Certainly no medicine, unless it is mercury, seems to have the *rationale* more in its favour in this disease. Its power in pneumonia, also, should lead us to expect favourable results from it in rheumatism. Can any one be better calculated to allay the excitement, remove the richness, or alter the too fibrinous nature of the blood, whichever may be supposed to be its condition? If the blood is unaltered in rheumatism, then there is still greater reason for the treatment found beneficial in pneumonia answering in this.

**OPIUM.**—Dr. Heberden speaks favourably of the use of opium uncombined, as a safe and effectual remedy for the purpose of mitigating the pains, and procuring easy nights of sleep, and contributing to the cure of the disease by its calming as well as by its sudorific power. This practice which was formerly in vogue, had been pretty much abandoned, but has recently been revived among us, and found some warm advocates.

Dr. Seymour, of St. George's Hospital, tells us that where the disease has continued long, and the patient's strength is much broken, but where the redness, swelling, and pain, continue in an inferior degree, one grain of opium alone, given every four hours, will often operate like a charm. Its safety, he says, has been illustrated by extensive experience in the course of the last eight years, while the calomel and opium treatment, though undoubtedly effectual, has the disadvantage of producing a sore mouth. In the second stage of the disease, opium is certainly more admissible than in the first. But it may well be asked, why give opium by

itself, when we can avoid its well known evil consequences, by combining antimony, calomel, or ipecacuanha with it?

The use of opium, by itself, cannot certainly be employed upon rational principles. If rheumatism is an inflammation, is opium a proper remedy in inflammation? On the contrary, it is considered improper and dangerous. On the other hand, if it be a disease *sui generis*; if it depend upon plethora, will opium remove the redundant materials of the blood; or if the blood is in any manner altered in quality, will opium restore it to its natural state? Is it not rather, (to borrow the strong though not over refined expression of one of our late physicians,) is it not locking up the door after he has got in? Its employment, therefore, is altogether empirical. Nor does it appear that experience is in its favour. There is not sufficient evidence recorded of its utility. On the other hand, there are many objections to its use. In the first place, opium interferes with the employment of other remedies. The suffering in acute rheumatism is very great, and requires a very large dose of opium to subdue it. In many cases it will not succeed, or its effect is only temporary; and then it leaves the patient in a heated, excited, irritable state, in which his sufferings are tenfold what they would have been without it. It also produces obstinate costiveness to which there is already a great tendency in this disease. The evil of this, from its requiring powerful medicines to subdue it, is by no means slight, especially when the patient has been exhausted by pain and disease. The injurious effect of opium upon the stomach is well known; and in the affection under consideration, it is particularly important to preserve or restore the healthy state of this organ. If it be allowed also that the blood is altered, opium will interfere with its restoration to its natural state.

These remarks, however, will be understood to refer to the use of opium uncombined, and as a means of subduing and smothering the disease. As an adjunct, and combined with antimony, calomel, or ipecacuanha, it loses its bad qualities, and forms a most useful remedy.

DOVER'S POWDER is an excellent preparation; but it will be found better suited to chronic rheumatism, or to the acute after the violence of the disease has abated, than at the onset.

MERCURY, CALOMEL AND OPIUM.—The use of calomel has many advocates. Scudamore recommended it combined with colocynt, for the purpose of “producing a more free excretion of bile than would be effected merely by the saline aperients. It also assists in reducing the inflammatory diathesis, and increases the action of the absorbent system.” He gave from one to five grains. Corrosive sublimate has been sometimes employed, and with alleged success, in very small doses. Dr. Pittschaft employed the red precipitate in doses of from one eighth to one fourth part of a grain, twice a day, and if it irritated the alimentary canal, he combined opium with it. Dr. Hamilton seems to have been the first

who proposed the employment of calomel and opium. Since then, it has been employed by many physicians with success, and combines a greater amount of testimony in its favour than any other course, whether preceded or not by venesection. Dr. Chambers employed it with great success at St. George's Hospital, giving ten grains of calomel combined with two of opium, every night and morning, or every night, as the case appeared to require, until the mouth became affected. A number of cases, exemplifying this treatment, are contained in the 56th vol. of the London Medical and Physical Journal, and also several cases by Dr. Macleod, who was led to adopt the practice by witnessing the success of Dr. Chambers. When the mouth became affected, the disease was relieved. Dr. Hope employs calomel and opium in the same manner, and gives colchicum at the same time. By this course he not only cures his patients, but enables them to resume their customary occupations in a week; a degree of success which no one else—even M. Bouilland—ventures to boast of. Dr. Watson speaks of the use of calomel and opium, as of the utmost importance in aid of the lancet, when the pericardium or heart is affected. Dr. Latham enforces the use of mercury, in still stronger terms, to arrest the deposition, and promote the absorption of lymph. Its efficacy he considers certain, when its specific impression is early produced, but it fails when this is not the case. It cannot be brought to affect the system too speedily.

**COLCHICUM.**—This remedy has enjoyed much favour in the disease of which we are treating. It has been greatly used, in both the acute and synovial forms; but Drs. Macleod, Chambers, and others, think it principally useful in the synovial forms. Dr. Hope speaks very favourably of it in both. He gives from seven to ten grains of calomel, with one grain and a half, to two grains of opium, at night, succeeded the next morning by a full draught of senna. Then he gives the following, three times a day.

R. Vini colchici. m. xv. ad xx.  
 Pulv. Dover, gr. v.  
 Mist. salin. ʒx.  
 Syrup. ʒi. M.

As soon as the mouth becomes sore, the calomel is stopped, but the opium is continued for several days. When the patient suffers much, it is sometimes given once in the middle of the day. By this method the patient is generally cured, and enabled to resume his usual occupations at the end of the week. A case of longer duration Dr. Hope considers an exception. The principal objection to this is that it promises too much. If, however, a patient may be cured in this manner in one week, while the shortest method advocated by others does not profess in less than a fortnight, as a general rule, and the average duration of rheumatism is fixed at from twenty to forty days, it certainly ought to have the palm

assigned to it, over every other method. Notwithstanding, however, the apparent extravagance of its pretensions, Dr. Hope's name gives it weight and authority.

Mr. Tweedie, in a letter published in the *London Medical Gazette*, in 1831, states, that in consequence of the uncertainty of strength, in the preparations of the wine of colchicum, Dr. Addison had adopted at Guy's the plan employed at the Mass. General Hospital, of giving colchicum in substance. He administered it in doses of four grains every four hours, six grains every six hours, &c. each dose combined with twenty or thirty grains of Epsom salts. Mr. Tweedie considers that the trials made at Guy's prove colchicum to be the best remedy in rheumatism.

Dr. Graves explains the beneficial action of colchicum as dependent upon its peculiar power of preventing the formation of the lithates, which, he says, abound in the urine of rheumatic patients. As soon as the exhibition of colchicum is commenced, the patient begins to amend, and the quantity of the lithates found in the urine to decrease daily, while the medicine is continued.

**GUAIAECUM.**—One of the most recent testimonials in favour of this medicine is that of Dr. Seymour, published in the October number of the *Med. Chirurg. Review*. Next to blood-letting and purging, it is the remedy he chiefly relies upon. He attributes its good effects not to its stimulant powers, but to its action as an evacuant, provoking purging, perspiration, and a flow of urine, in a very violent degree. When its purgative action is too great, he gives one grain of opium at bed time to check it. M. Alies, of Conlombier, in a paper read to the Royal Academy, some years ago, gave an account of twenty-one cases cured by guaiacum, to which he attributes specific powers, similar to those of cinchona in intermittents, or mercury in syphilis. Ten ounces of the wood were added to three quarts of water, which were boiled down to one quart. One sixth of this quantity was given three times a day. In one case the treatment was continued for twelve days, during which time the patient took five pounds.

**CAMPHOR.**—This seems to have been first employed in rheumatism by Dr. Amable Chère, at Chalons sur Saone. M. Dupasquier, in a long article on rheumatism, in the *Revue Médicale*, May, 1826, describes it as a remedy almost sure to stop the progress of the disease. It may be given in substance, but is more effectual when applied in the form of vapour. M. Dupasquier thinks it destroys the inflammatory action, by producing a powerful revulsion; that is by inducing perspiration, and afterwards by its absorption through the skin and pulmonary organs, by acting on the general and first cause of the disease as a sedative. The patients were placed in a kind of box invented for the purpose. When this could not be obtained, they were seated in a chair, over a small furnace, with a blanket thrown over them, reaching to the ground, and



drawn close around the neck. A teaspoonful of camphor is then to be thrown every five minutes on a metal plate, covering the furnace. It rapidly volatilises, and speedily covers with sweat every part of the body, with which it comes in contact. When the bath is over, the patient is to be wrapped in a blanket. Half an ounce of camphor is enough for a bath. The number of fumigations must depend upon the strength of the patient. When he is strong and has much suffering they are repeated three or four times a day. Some mild diaphoretic drink is to be given during the fumigation. When the patient cannot be taken out of bed, the bed clothes may be raised up by hoops, or other contrivances, and the camphor volatilised by means of a warming pan, moved up and down the bed. The fumigations must be continued a week after the pains have subsided. A notice of the recent employment of camphor, in the manner proposed above, is contained in one of the late European journals.

It is obvious that it must be a great objection to any remedy that it requires the patient to be removed from bed, as motion increases his sufferings in a great degree; and in the violent stage of the disorder, it will be impossible for him to sit up. If therefore the camphor vapour can be introduced into the bed, either in a warming pan as above mentioned, or by means of the hoops and pipes employed for giving a common vapour bath to a patient in bed, its use will be much facilitated. There does not seem to be any danger in the employment of this remedy, and as, when the patient is in extreme suffering, the attendants must be doing something, or have the appearance of doing something for his relief, there can be no harm in giving it a fair trial.

**ACETATE OF AMMONIA.**—This remedy is employed by M. Magendie, in consequence of its possessing the power of attenuating fluids in a great degree. By producing this effect upon inspissated blood, M. Magendie hopes to attenuate the particles of the stagnant blood to such a degree that they will no longer be retarded from entering and passing through the minute vessels.

**CINCHONA.**—It is one of the most singular facts in medicine, that opposite remedies in the hands of different practitioners, and eminent ones too, often seem to succeed, and equally well in the same disease. There is some principle in the economy by which this phenomenon takes place, which has never yet been accounted for. Thus we cure gonorrhœa *rationally* by a strict antiphlogistic course; we cure it often empirically in less time by a stimulant one. On the onset of a cold or catarrh, we can often cure it immediately by the empirical process of giving stimulants. We can cure it rationally, and with more safety, though somewhat more slowly, by a strict antiphlogistic course—withholding liquids, and confining the patient to a very spare diet. If the simile were not too humble, we should be tempted to compare the morbid

action, or the morbid matter, whichever it is, that the system has to get rid of—to a pot of liquor boiling over a fire. If we add more fuel, the pot will boil over, and we shall get rid of the scum in that way, though at the risk of considerable loss and damage. On the other hand, if we go carefully to work and skim it off, it will be a much slower process, but a much safer one.

The bark seems to have been first employed by Dr. Morton. Sir Edward Hulse, Dr. Hugh Smith, Dr. Fothergill, Dr. Geo. Fordyce, Dr. Haygarth, and Dr. Swediaur, were among its most eminent supporters. The principal object of Dr. Haygarth's work on rheumatism, and nodosity of the joints, appears to have been to bring the bark into favour. In 121 cases the bark failed only in four. And Dr. H. concludes that acute rheumatism is cured by bark with more certainty and speed than the ague.

Dr. Good attempts to reconcile the effects produced by opposite remedies, by attributing the success of bark to the residence of the patients in low swampy ground, or to their being of weak and irritable habits; but he allows that this does not explain the general and indiscriminate success, which seems to have attended its use.

**IODINE** has been employed with alleged success in acute rheumatism by Dr. Clendenning, and Dr. Elliotson, at the New London Hospital, Dr. Roe, at Westminster, and Dr. Williams at St. Thomas's. Dr. Graves has employed the hydriodate of potass, which has been used also by Dr. Elliotson, in doses of two and a half grains, three times a day in solution. It is probable that as iodine becomes stripped of its pretended and extravagant powers, and sinks down into an ordinary member of the Pharmacopœia, it may be successfully employed as an alterative, in the same manner with antimony or mercury, in this and other diseases.

**ARTICHOKE.**—In the eighth volume of the Boston Medical and Surgical Journal, will be found an article copied from the London Medical Gazette, on the use of the common artichoke, (*cynara solymus*) in both the acute and chronic form of this disease. Four cases of the former and two of the latter are given, all of which were *cured* by this remedy. As the medicines already in our Pharmacopœia, used in rheumatism, are sufficiently numerous, it is hardly necessary to do more than refer those interested in the matter to the paper itself.

**ACONITE.**—A paper was published in the Gazette Méd. de Paris, in 1834, giving an account of six cases, in which this remedy was employed with speedy success. It was given in the dose of half a grain of the alcoholic extract, three times a day. Where opium does not agree with the system, our invention will be taxed to find other narcotic remedies for the relief of the pain. The uncertainty of this remedy is the greatest objection to its use. An instance of this may be found in the second of the cases referred to. One

grain was prescribed to be taken four times a day—eight grains were inadvertently taken at once, and no unpleasant effect ensued. Half a grain will act more powerfully on some persons, than five grains upon others.

**EXTERNAL AND TOPICAL APPLICATIONS.**—These are principally beneficial in chronic or synovial rheumatism. The warm bath, vapour bath, sulphur and camphor baths, which last has been already sufficiently discussed, are the chief that are recommended in the acute disease. To imitate the douche baths, at Aix les Bains, the following method has been devised by a London physician. He says, I set my rheumatic patient in a chair, at the side of which is placed a large vessel capable of containing three or four gallons of boiling water, and envelope patient and all with a blanket pinned close round his neck. In a few minutes he is bathed in a copious perspiration, and in this state he is directed to apply percussion to the pained joints by means of an elastic ball made of cork, covered with kid leather, and fixed on a handle of cane or whalebone about a foot in length. I have seen the most decided benefit follow this practice; and in one case of seven years' standing, after the daily employment of this dry douching, my patient was beaten into excellent health, and threw aside a crutch which he had long used." Dr. Johnson speaks of the warm bath as dangerous, excepting where metastasis has taken place from the extremities to an internal organ. The same remark would probably apply as forcibly to the others. How far there may be danger of their producing metastasis at the onset of the disease, the writer is not prepared to say, but as their tendency is to throw the action outward from the internal organs to the skin, it does not appear that there is this danger. The trouble and fatigue to the patient is a serious objection to the warm bath: the others it would seem might afford great relief by promoting healthy instead of diseased perspirations. At any rate they may be employed with safety and advantage, when the fever has begun to subside. The sulphur bath is of known and well tried efficacy, especially in chronic rheumatism; but its unpleasantness is a great objection to its use. It would undoubtedly be employed much more frequently, if it were possible to induce patients to use it: and it is hardly possible to have it in a private house. The camphor bath or fumigation has not yet been sufficiently tried, to demonstrate its utility; but it seems to be well deserving of trial, if only on the ground above mentioned, to fill up time.

**BLISTERS AND SINAPISMS.**—The relief afforded by blisters, in the case that has been detailed, was so great, that the writer has always been in the habit of employing them or sinapisms, and always with apparent benefit. The sinapisms were less effectual in the relief of pain; but they may be employed sometimes where blisters cannot. As these applications draw the action towards the

surface, they certainly have more tendency to fix the disease than to drive it to another part. Blisters are employed in erratic erysipelas to fix the complaint; they can hardly therefore promote metastasis. Instead of their adding to the suffering, they are actually the most pleasant remedies possible, from the relief they afford. Where the pain, however, is not felt, while the parts are kept perfectly at rest, there is not the same reason for their use. In cases of rheumatic pains in the lumbar region, the writer has seen a sinapism act like a charm in removing the complaint.

**VERATRIA.**—Rheumatism is one of the diseases in which this remedy is recommended by Dr. Turnbull. He employs it only externally, in an ointment composed of ten grains to the ounce, rubbed upon the joints in the decline of acute rheumatism, after the active symptoms have abated, and in chronic rheumatism.

**LEECHES AND CUPPING** are undoubtedly among the most important of local measures. Dr. Elliotson, Dr. Alison, and others, who disapprove of venesection, make them the principal remedy in the heart affection.

**ENDERMIC APPLICATIONS.**—The acetate of morphia has been used of late, externally, by M. Brachet, of Lyons, and other physicians, English and Continental, for the cure of this disease. A small blister is drawn as near as possible to the part affected, and one half to one grain of the acetate applied to the denuded surface. In one instance, the writer has known this method employed with great relief. It produced at first extreme pain, as the application of laudanum does to a denuded or delicate surface, but in half an hour the pain in the joint was entirely removed. It is obvious, however, that this is better suited to chronic rheumatism, or to acute rheumatism after the fever has subsided. Such a remedy may relieve a part from pain, but cannot subdue the constitutional affection.

**SETONS.**—Some cases, illustrative of the value of setons, employed even in the most acute cases of rheumatic affections of the heart, are given in the Addenbroke Hospital Report, in the last July number of the *Medico-Chirurgical Review*. In chronic cases their benefit is well known. It is doubtful whether they can be as useful in acute cases as blisters; but where any thing prevents the application of a blister, and in chronic cases, they may be employed with much advantage.

A simple application, but one that will sometimes afford great relief to the swelled and painful joints, especially after the fever has diminished, is a bath or wash of warm water and soap. "It is only weak minds that slight things because they are common and simple."<sup>1</sup>

<sup>1</sup> Sydenham.



**ACUPUNCTURE.**—The same number of the *Revue Médicale* that contains the article on the use of camphor above referred to, contains the account of a case of rheumatism of the heart, cured by acupuncture, by M. Peyron. A young lady, aged 18, of a good constitution and nervous temperament, after having lived for several years in a damp house, was attacked with rheumatism of the legs and arms. After leaving the house this was relieved, but she soon began to be seized with acute pains in the heart, palpitations and delirious loquacity, the attacks lasting from a quarter of an hour to three hours and more. M. Peyron found the pulsations of the heart very violent and distinctly audible at the upper and back part of the side of the chest, and even of the right; impulsion of the ventricle to that of the auricle, as one to five eighths, pulse quick and intermitting. A needle thirteen lines in length was introduced without however touching the heart. This was followed by a paroxysm attended with spasms and partial delirium. A needle fifteen lines in length was then used with more powerful effect. A needle eighteen lines long was next passed from the upper border of the cartilage of the sixth rib through the pericardium until the point entered the heart. No bad result ensued, the pain was relieved and did not return.

Dr. Elliotson, the grand experimenter with new remedies, gave this a fair trial at St. Thomas's Hospital, and in private practice. He found it chiefly useful in rheumatism of the fleshy parts; and the more so in proportion as the disease was less inflammatory. One needle left an hour or two in the part, he found more beneficial, than several used for a few minutes only. Acupuncture, if useful at all, must be chiefly so in chronic rheumatism. With regard to its application in the cardiac affection, one would hardly wish to imitate the practice of M. Peyron.

**ABSTINENCE.**—There is no disease in which a strictly regulated diet is of more importance than in this. None in which any variation or indulgence is more sure to produce a relapse. During the violence of the fever and pain, indeed, there is little danger that the patient will exceed, though even here there is need of great caution; but as soon as he is free from suffering, his appetite must be cautiously guarded. A diet of whey, according to Sydenham, is a sufficient cure for this disorder. If it were not for the prejudices of the vulgar, he says, this diet might be suited to other diseases. This remark is as true now as it was when Sydenham made it, and we seem to be getting every day more to act in accordance with it, employing a low diet, in place of blood-letting and purgatives. A low diet, the writer is convinced, ought to be employed in most cases of chronic rheumatism, but in the acute disease it is indispensable. Still more necessary, if possible, is it when the acute affection is attended with pericarditis; and it is most probable that if an antiphlogistic diet were carefully persevered in,

subsequent to the cure, organic lesions of the heart would be much less frequent as the sequelæ of rheumatism or pericarditis.

From what has been said it will be seen that the writer is not inclined to recommend blood-letting as a general rule, a *sine qua non*, although he confesses that the majority of the best European writers, even those most opposed to the sanguinary system of M. Bonillaud, maintain the necessity of at least one bleeding at the onset. In this he has the support of M. Louis, and, as he believes, of our principal physicians. At the same time, there are cases in which venesection is undoubtedly of service, especially after the disease has seized upon an important or delicate organ.

The grand imperfection of all medical treatises, especially with regard to treatment, is that the writers are obliged to lay down general rules, which the inexperienced reader would naturally apply to all cases; whereas no two cases, perhaps, will ever allow of precisely the same treatment. It is well, therefore, that we have such a variety of therapeutical means within our reach as we have in this disease. And here another suggestion occurs. When so many articles of the *Materia Medica* have their advocates in any particular disease, the common conclusion is that they all fail, and the disease is designated as the *opprobrium medicinæ*. But may we not fairly draw another inference—to wit, that where so many means have been accidentally or otherwise resorted to, each finds too many advocates, and none is employed so generally or with sufficient patience to enable it to acquire the preference? The writer is hardly willing as yet to allow to rheumatism the title of a self-limited disease. He is unwilling to believe that it cannot be cut short by judicious management at the onset.

As a substitute for venesection, and as a medicine well calculated to answer the indications, he would give tartar emetic at the onset, in the same manner as in pneumonia. In the most violent attacks, attended with pericarditis, he would resort to venesection. This is a remedy he would always have in reserve, to be employed when decidedly indicated; but in milder cases of the heart affection, he would trust to the antimony and to local depletion, especially by leeches—succeeded by a blister or a seton, and in some cases the antimonial ointment. In cases where there is any objection to the use of tartar emetic, the calomel and opium plan should be preferred, combining antimony with the pills, or not, according to circumstances. If antimony is employed at first, a pill of antimony and opium may be given at bed time. After the antimony, or if the antimony is not given, the colchicum may be employed, either as recommended by Dr. Hope, or in substance. The uncertainty with regard to the strength, must always be an objection to the wine.

If the suffering is severe when the parts are at rest, blisters and sinapisms may be applied to the affected regions successively. These are more important and useful in proportion as the disease is local and fixed. Blisters are more effectual, but their operation is slower, and they are more troublesome afterwards.

In a disease where there is so much suffering, it is difficult to avoid doing more than is absolutely useful, and it is well to employ means which serve to fill up the time, and amuse the patient and his friends. For this purpose the vapour and camphor baths may be employed. After the violence of the disease has abated, and in proportion as it assumes a chronic form, such measures become more important. We cannot hope to accomplish much by local means, while the constitutional affection is at its height.

Costiveness is always an attendant on rheumatism, and guaiacum given according to circumstances will be the best remedy to obviate it.

With regard to diet enough has already been said. The most strict antiphlogistic diet must be maintained from the commencement of the attack, until the cure is completed, and the patient placed beyond the danger of a relapse. Unless this is strictly enforced, medical treatment is of no avail, and it is not quite certain that this alone is not sufficient for the cure.

**TREATMENT OF SYNOVIAL RHEUMATISM.**—In the synovial form the fever is generally less violent. The disease is more of a local one, than the acute fibrous rheumatism. Here the colchicum is found more beneficial. Calomel and opium may be given until the mouth becomes slightly affected. Blisters, leeches, &c. are here also more useful. The guaiacum may be employed as in the other. On the whole the synovial and fibrous forms run so much into each other, that it is difficult to make a practical distinction. The treatment must be adapted to the individual case.

**TREATMENT OF CHRONIC RHEUMATISM.**—With regard to the treatment of chronic rheumatism, we have not much to say. The local measures we have already described, are here our principal therapeutical indications. Even here, a rigid diet is of importance; though it must be regulated in accordance with the age, habit, and constitution of the patient. Chronic rheumatism is more of the nature of a chronic inflammation, and as such it should be treated. Leeches, cupping, blisters, sinapisms, setons, the warm bath, vapour, sulphur, and camphor baths are here most beneficial. Mezezon is considered useful. The compound decoction of sarsaparilla, which contains guaiacum and mezezon, is a good preparation. The calomel and opium pill may be given at night, taking care to discontinue it as soon as the mouth becomes in the least affected. Ten or fifteen grains of Dover's powder may be given at bed time, as recommended by Dr. Gregory. Some cases can only be benefited by a change to a warmer climate.

March, 1839.





# A DISSERTATION

UPON THE QUESTION

**“WHAT ARE THE CAUSES, SEAT, AND PROPER TREATMENT OF  
ERYSIPELATOUS INFLAMMATION. (ERYTHEMA ERYSIPELA-  
TOSUM OF GOOD.)”**

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*“Opinionum commenta delet dies, naturæ judicia confirmat.”*

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It appears that this disorder has been known and described since the time of Hippocrates, from whom is derived the term erythema employed by Dr. Good. The words erysipelas and erythema, seem to have met with a singular fate in being employed differently by most writers who have undertaken to treat of them; while we find others who, dissatisfied with the vague manner in which these terms have been employed, give us cases of the same disorder, under the head of constitutional irritation, irritative fever, &c. each writer classing a particular group of symptoms under a particular designation, according to his fancy. Thus, Mr. Lawrence under the head of erysipelas, includes the whole genus erythema of Dr. Good, the inflammation of the cellular membrane, adipose membrane, &c. On the other hand, some writers, as Mr. Liston, employ the word erythema, to express simply an inflammation of the skin, or exanthematous flush, and apply the word erysipelas to the more serious affection, in which the cellular membrane often becomes involved. Others, as Mr. Earle, separate the inflammation of the cellular membrane from the inflammation of the skin; whilst another class, among whom is Cullen, have brought in herpes under the designation erysipelas.

It is not the intention, nor is it the province of the present writer, however, to discuss the nomenclature of the disease. Modern medical writers have been censured for their inclination to dispute about words—to write treatises upon philosophy rather than medicine. It shall be my object to confine myself to erysipelatosus inflammation, or erythema erysipelatosum, and to the sense in which it is understood by Dr. Good.

Unfortunately it is not merely in regard to the designation that writers disagree. They differ equally in regard to the nature and treatment of the disease. We find one party maintaining warmly, that it is an inflammation, and is produced by the ordinary causes of inflammation, and must be treated by antiphlogistic remedies, while the opposite affirm as positively, that it is an asthenic disease, and must be universally treated with tonics. To this it is replied by others, that an asthenic inflammation is an impossibility—a black swan. These two parties remind us very much of the contention of the two knights respecting the shield, one side of which was gold and the other silver. A third party are for having us attend to the symptoms of the individual case, the constitution of the patient, &c. giving him support when he seems to require it, and using antiphlogistic remedies when the inflammatory action requires it. Others remonstrate against this caution, affirming that the disease depends for its origin and support upon a morbid poison, and that in such a case it is not safe to be guided by symptoms. There may perhaps be found yet another class who think nature would do better, if left altogether, or nearly altogether, to herself: and that, in the present state of our knowledge of the complaint, the patient oftener recovers in spite of our remedies, rather than by their aid; that it must go through its course, and that all attempts to cut it short are futile.

It is indeed probable that there is not half the difference in practice, that there is in theory, in this affection. Fortunately for the sick, the physician loses sight of his hypothesis at the bedside of his patient. There are certainly few practitioners who would give quinine to a person labouring under all the symptoms of active inflammation, with a quick full pulse and other marks of high fever. Nor can there be many who would resort to free venesection and other antiphlogistic remedies, when the patient is suffering from debility. A physician acquires by experience a sort of intuitive knowledge of what the state of his patient demands; and he will prescribe correctly though his abstract reasoning may be false. In proof of this we find that there are no advocates of the antiphlogistic course, who do not allow that the necessity for tonics may sometimes exist; nor any or but few, who forbid the use of antiphlogistics in all cases.

In following the course I have prescribed to myself, of adhering strictly to the limits marked out by Dr. Good, it is necessary to reject much that Mr. Lawrence has included in his account of erysipelas. In his second class he has placed as synonyms, erysipelas phlegmonosum, the diffuse cellular inflammation of Earle, the inflammation of the cellular tissue of Mr. Arnott, diffuse phlegmon of Dupuytren, and the pseudo-erysipelas of Rust. Of course much of the disease described by Dr. Butter under the head of irritative fever, many cases of which occurred after dissecting wounds—by Dr. Craigie under that of adipose inflammation, and by Mr. Travers

under that of constitutional irritation would be embraced within the same limits.

Dupuytren, however, shows a distinction between *phlegmon diffus*, and erysipelas. He says, "although this malady (*phlegmon diffus*) is very frequent and severe, it has been completely passed over in silence by most writers, confounded by others with its complications, and described by modern writers under the names of erysipelatoous phlegmon, phlegmonous erysipelas, traumatic erysipelas." We understand him, therefore, to consider erysipelas as a complication of diffuse phlegmon. In Dr. Butter's cases erysipelas appeared in many, but it was as a "complication." In short, erysipelatoous inflammation is frequently the attendant of cellular inflammation, but cellular inflammation is not always erysipelatoous. One of the most marked characteristics of erysipelatoous inflammation, is that it commences in the skin, and extends inward, affecting the cellular membrane secondarily, and this even when the cause is internal. Hence Dr. Copland has drawn the distinction between erysipelatoous inflammation and inflammation of the cellular membrane, that the latter has its origin in the cellular membrane, and the skin is secondarily affected. To this distinction I shall adhere, and hence irritative fever, diffuse phlegmon, diffuse cellular, or diffuse adipose inflammation, however near they may border upon my subject, or however frequently complicated by erysipelatoous inflammation, will be out of the range of the present inquiry.

As this is a subject upon which much novelty or originality can hardly be expected, it will be my aim to collect and compare the opinions of as many of the best authors, who have treated upon it, as are accessible.

I propose, in the first place, to consider what erysipelatoous inflammation is, and as there exists so much confusion and disagreement in regard to it, to examine briefly the descriptions given of it by the most approved writers.

Dr. Good makes the difference between erysipelas and erysipelatoous inflammation to consist in the one being a constitutional affection, accompanied with the latter as an exanthem, whilst the latter is the local or cutaneous affection, which accompanies the constitutional. He considers them both as diseases of weakness, requiring a tonic treatment. Although he has classed them under different orders, he makes no other distinction than this, that the one is the local affection combined with the constitutional: the other is the local affection alone. For the rest Dr. Good follows J. Hunter, almost verbally, in his whole account of this inflammation. The older writers, as Hippocrates and Galen, considered erysipelas as closely allied to phlegmon; the latter making the principal difference to consist in an increased yellowness, which he attributes to the presence of bile.

Sydenham describes erysipelatoous fever, as attacking every part of the body, particularly the face, at all seasons, but particularly about the end of summer. The face becomes suddenly swollen,

red and painful, and the tumour is distinguished by small pimples, which upon the increase of the inflammation, sometimes become vesicles. Hence it spreads over the face and head, and the eyes are buried in the swelling. The symptoms resemble those produced by the sting of bees, except in the presence of pustules. It is generally preceded by or attended with rigour, shivering, and subsequently thirst, restlessness, and other symptoms of fever, which appear as the disease advances. The fever first produces the pain, swelling, &c. (which increase from day to day, and sometimes terminate in gangrene) and these in their turn contribute to the increase of fever.

Such is Sydenham's description, and I think it will be readily recognised as applying to the acute cases of erysipelas of the face, &c. which we often meet with as sporadic. They occur in different parts of a town or village, like many other diseases not epidemic, appearing about the same time in different situations. In a majority of the cases that have come under the notice of this writer, they have been solitary and insulated, not going from one individual in the same house or family to another. Sydenham's method of treatment is generally successful.

There is also, he says, another kind of eruption, though less frequent, which generally affects the breast, and fixing itself in some certain place rises very little if at all higher than the skin, and appears like a broad spot, or a kind of branny scurf of a yellowish colour. In this species, Sydenham recommends the use of wine and flesh, and forbids antiphlogistic remedies. This is more nearly allied to the erysipelatous inflammation of John Hunter.

John Hunter describes erysipelatous inflammation as arising spontaneously, in consequence of low or debilitating fever, sometimes from accident—when, however, it is secondary. It is commonly cutaneous, but in some constitutions takes the place of every other inflammation in all parts. The extravasation is not so great as in the adhesive or œdematous inflammations, nor does the fluid extravasated produce adhesions; it seems to support itself by sympathy, for it begins at a point and spreads itself to the adjacent surface, while the part first attacked is getting well. The part which has gone through the action either has its sympathy exhausted and becomes healthy, or the inflammation is such as to contaminate while it spreads. It sometimes begins round a wound on the scalp, and extends over the whole head and face, the eyelids being very much swelled, and the ears thickened. Thence it advances to the shoulders, body, and extremities, the part it leaves being cured, and the skin peeling off. The inflammation has a determinate edge, the skin feels a little thickened, and not so pliable as natural, colour a darkish red. It begins with fever, lowness of spirits, loss of appetite, prostration of strength; but it does not last long, and the inflammation spreads after the fever has subsided.

Thus we find Mr. Hunter describes erysipelatous inflammation as attended with low and debilitating fever. He considers it,



therefore, as a disease of weakness, and directs the strength of the patient to be supported by tonics, as bark, &c.

Mr. Lawrence who describes erysipelatos inflammation under the head of erysipelas, follows Galen and Sydenham pretty closely. He argues that the disease in question is an inflammation; it is therefore produced by the same causes, and demands the same treatment. It is merely a modification of cutaneous, or cutaneous and cellular inflammation. Erysipelas affects both the skin and cellular membrane; and hence it is distinguished from the exanthemata which affect the skin only. Phlegmon has its original seat in the cellular membrane, and the skin is secondarily involved. It is a more violent inflammation than erysipelas, though sloughing is more frequent in the latter. The most striking and important distinction is, that the inflammation is confined to one spot in phlegmon and is distinctly circumscribed; while in erysipelas it is diffused and spreads without limit. Coagulating lymph is wanting in erysipelas in which the effusion is serous.

Mr. Lawrence divides the affection into simple or true, œdematous and phlegmonous.

M. Sanson, of Paris, proposes a new division of the varieties of erysipelas. The first is the same with that of Mr. Lawrence, proper erysipelas; the second, lymphatic phlegmonous erysipelas; and the third, venous phlegmonous erysipelas. As his descriptions are more minute and graphic than the others which have been given, I may be excused for quoting them, although at the hazard of being censured for repetition.

In the first, M. Sanson says the inflammation does not extend beneath the skin, and is characterised by a stain of a red colour, more or less deep, like that of the lees of wine, irregularly circumscribed, disappearing for an instant upon pressure, and giving a sensation to the finger of an elevation, varying in height and consistence, according to the region and the texture of the skin it occupies. When the latter is soft and fine, the tension which causes the elevation is not considerable, and is not very sensible; but if it arises in a part where the skin is hard and thick, less moveable, and fixed to the deep parts, by unyielding cellular membrane, it acquires considerable consistence and hardness. On the forehead and nose the erysipelas presents these characters; on the thigh, the surface is rude, rough, raspy, and as it were dried up. Examined with a glass, it is interspersed with a great number of little phlyctenæ, which when broken discharge a fluid of a yellow citrine colour, and semitransparent. This is the bullous, miliary, phlyctenoid erysipelas of writers.

To these local characters, which are accompanied by a sense of weight, heat and pruritus in the part affected, general symptoms are almost always joined, either as causes or effects. Some of these precede erysipelas: pains in the epigastrium, nausea, and squeamishness, bitter or clammy mouth—in a word, all the symptoms of

foul stomach. Sometimes, on the other hand, they accompany or follow it, but they are generally unimportant.

In other cases, whether it be that the inflammation is propagated from the cellular membrane to the skin, or from the skin to the cellular membrane, in persons whose skin is fine, white, and delicate, though not always lymphatic, erysipelas is formed in this manner. Under the influence of the causes that may produce it, we see upon the inner side of the limbs, over the course of the veins, small striæ of a beautiful rose colour, undulated, parallel with each other, painful on pressure, and situate in the substance of the skin itself. They soon increase in volume, grow to half a line in diameter, anastomose, and thus form a network with larger meshes, which gradually become more numerous, narrower, and at last touch each other, and become confounded, forming a red plate or scale, which differs from proper erysipelas in its vividness and colour.

The skin becomes tense and smooth, and the limb augments very considerably in volume. The neighbouring ganglions are engorged, and become painful on the slightest pressure, the warmth is in general increased and becomes painful; the pulse is quick, frequent, confined, and tense. The head is affected, and delirium comes on, characterised by violent agitation, and sometimes furious transports.

In the great majority of cases this form of erysipelas, which M. Sanson calls lymphatic phlegmonous erysipelas, goes on rapidly, and terminates, in spite of all we can do to prevent it, in suppuration, and even in the complete destruction of the cellular membrane. M. Sanson has seen many cases of this kind, and mentions one in which the skin of the leg was entirely stripped of cellular membrane, and formed, as it were, a stocking to the subjacent parts.

Lastly, in cases where it is seated in the skin, and in the subcutaneous cellular membrane, but in individuals whose skin is not much coloured, and very thick—erysipelas shows itself with characters diametrically opposite to those of the preceding species. The striæ with which it commences, are violet, and sinuous not parallel, and form a tarnished rose colour, scaled like that of simple erysipelas, but without the elevation that we have described in speaking of the latter.

Upon this coloured ground, there soon appear scales, irregular in number and extent, brownish, violet, like the ecchymoses produced by a contusion, not disappearing upon pressure by the finger. There is enormous congestion in the subjacent cellular membrane, the skin is tumefied, hangs in folds, and, what is remarkable, the epidermis assumes a brilliant and resplendent aspect.

The ganglions are not engorged, gangrene rarely commences in the subcutaneous cellular membrane, but in the skin, and begins constantly in the scales which have been described. When this is

not developed, we observe phlyctenæ, more or less numerous, scattered over all the inflamed surface, and which are the commencement of the first degree of eschar that characterises gangrene.

The general symptoms are not less different than the local ones. The skin of the rest of the body takes a livid earthy colour: the warmth is not much elevated with moisture. Pulse small, soft, depressible. Tongue dry, raspish, covered with fur. The patient is seized with extreme muscular weakness, and the least motion is an exertion. The prostration becomes more and more marked; the faculties are obscured, and the patient soon falls into a deep stupor. Then delirium comes on, which is very different from that observed in lymphatic phlegmonous erysipelas; it is vague, unquiet, without agitation, accompanied by dreams, broken by sudden returns to consciousness and reason.

If it is not arrested, and the symptoms increase, the venous branches inflame, and the inflammation proceeds to the large trunks. The most marked phlebitis is developed, and hastens to a fatal termination. If to signs so striking, there is also added erratic shivering, which precedes or accompanies this species of erysipelas, the different state of the blood drawn by general bleeding, metastatic abscesses, in fine evident inflammation of the internal coat of the veins, which are found on opening the body; we cannot hesitate to place the point of departure and the seat of this form of erysipelas in the venous system.

The first of these species is met with in *persons of all ages and temperaments. The second, more particularly in children, and in those adults whose skin is fine, white, and easily injected. The third is more common in old men, and in those whose skin is thick, without colour, and whose veins are prominent. It never occurs in children.*

M. Blandin has published the results of his observations at the Hôtel Dieu, for two years, and it must be allowed that this hospital furnishes a pretty fair field for the study of this affection.

He says we must seek the nature of this disease in its cause. It may be internal, and then the malady exists in the economy before acting locally. It may be external; the disease in this case, most frequently coming on in consequence of a contusion, a wound, or an operation. Here the affection is entirely local from its origin. This cause is readily appreciable; the other is not. Erysipelas is often epidemic. But we find also, in the medical wards, isolated cases which are truly sporadic, and for which no special cause can be assigned. The course of these two species differs, owing to their etiological nature. That from a local, external, cause soon tends to become general. The fluids altered by it have a concentric course, are soon dispersed over the system, and excite violent reaction.

When it arises from an internal cause, at first general, it tends to localise itself. It is a critical effort of nature precipitated towards



one point; the perturbing element that carries the trouble into all the systems at once.

It results from this theory, that the febrile action must predominate at the beginning, where the cause is external. At the same time, we must allow that the latter having place almost always after wounds, contusions, ulcers, and operations, the traumatic fever will mask the erysipelatous.

In regard to its anatomical nature, most writers call it cutitis; but it is much more than cutitis. The element pre-existing, dominant, is a phlegmasia of the lymphatic radicles of the skin.

M. Blandin quotes the observations of others in support of his opinion. M. Ribes, he says, supposed that there was something of a capillary nature in erysipelas. He found the internal tunic of the arteries and veins of the integuments inflamed, and that the disease attacks principally the small cutaneous veins, the small arteries being less affected. M. Blandin thinks he mistook the lymphatics for veins. Dana found the greatest advantage in applying leeches to the lymphatic ganglions at the base of the jaw. Chomel says, that whenever an individual is taken with shiverings, nausea, horripilations, red lines under the skin, and pain in the submaxillary ganglions, he will have erysipelas of the head. Lymphitis not only predominates but pre-exists. In convalescents, there is an œdema which cannot be the result of venous or lymphatic inflammation, or an obliteration of the vessels that carry the lymph.

There is then capillary lymphitis, and cutaneous inflammation, which is posterior to the first.

But these two elements are not in equal proportion. In erysipelas arising from an internal cause, inflammation of the dermis preponderates: in traumatic erysipelas it is that of the white vessels. This makes the difference in severity. The first is often produced by a miasm, which shakes the whole economy, but an erysipelas like that of the face exhausts the morbid cause. Those from an external cause, on the contrary, invade the system instead of leaving it; and the lymphatic vessels carry into all the tissues, according to their course, the fluid altered by a violent phlegmasia, at first local and then becoming quite concentric. These, says M. Blandin, are positive facts, and how often do we see women in childbed succumb, under uterine, inguinal, and femoral lymphitis; described under the name of *phlegmasia alba dolens*. Physicians consider erysipelas a trifling affair, surgeons, a serious one. Erysipelas from an internal cause is rarely ambulant. The other is so, and almost always extends concentrically towards the trunk. That of the trunk sometimes proceeds superiorly, at others inferiorly. The phlegmasia extends in the direction of the network of vessels, and we see the red lines before the appearance of the redness of the dermis and its tumefaction.

There are, however, cases of erysipelas from an external cause, where it directs itself towards the extremities, as lymph does not



always proceed concentrically. The wards under M. Blandin's superintendence offer hardly an example of this. It is sometimes the same with phlebitis : but these are exceptions.

Erysipelas is sometimes produced by a double cause, a local one acting externally, and a general one acting internally, at the same time, when the patient suffers both from the atmospheric constitution, and from the absorption of matter into all the tissues.

Dr. John Stevenson published in the second volume of the Edinburgh Medico-Chirurgical Society's Transactions, for 1826, an abstract account of twenty-one cases of erysipelas of the head, in all of which there was a peculiar and severe affection of the throat, and which tend to prove the contagious nature of erysipelas.

This affection of the throat occurred so frequently in persons who had been much with erysipelatous patients, that he came finally to the conclusion, "that it was erysipelas of the fauces spreading occasionally to the adjacent parts in different directions. The febrile symptoms by which it was ushered in, were generally severe, even in the milder cases ; very full and frequent pulse, severe pain of the head and back, restlessness and great heat of the surface. The period at which the affection of the throat came on varied from the second to the sixth day. It commonly began with a red or purplish blush, more or less extensive over the velum and uvula, accompanied with very little tumefaction, but with considerable difficulty in swallowing : often, after a few days, excoriation of the inflamed surface followed, with superficial ulceration, which at times soon healed, but at others spread and discharged a good deal of purulent matter. In many cases, the disease terminated without extending farther than the parts mentioned, but in a few, it spread to the larynx, producing a state of respiration very similar to that of idiopathic croup ; in others it extended to the pharynx and œsophagus. When the last became affected, fluids and even solids, could be partially swallowed without difficulty ; but after a few seconds pain was felt in the course of the gullet, an inverted action began, and they were wholly or partially returned to the mouth. In some protracted cases, glandular swellings appeared in the neck which suppurated externally. This disease is readily distinguishable from cynanche tonsillaris, by the want of swelling, by the redness being more diffused, and by the pyrexia being generally greater than could have been expected from the degree of local affection." It was distinguished from croup by the larynx being affected in only a small proportion of cases ; by the inflammation not commencing there, and by the age of the patients. It was distinguished from scarlet fever by the absence of cutaneous eruption, and by attacking persons who had already had that disease.

All of Dr. Stevenson's patients whose cases he has reported, with the exception of three, had been with others who had similar affections, so that there was strong *prima facie* evidence of contagion. Ten of them had sore throat simply, without cutaneous affection.

Dr. Stevenson and Mr. Arnott (London Medical and Physical Journal, vol. 57,) are the principal authors who have noticed erysipelatos inflammation of the throat. Mr. Arnott has given three cases which occurred in his practice, that of a father, mother, and daughter, in which there was similar evidence of contagion. It is upon a consideration of these cases in connection with those of Dr. Stevenson, some of Dr. Duncan and others, that Mr. Arnott wishes to confine the use of the word erysipelas to the affection of the head and throat merely, which he considers contagious.

In the first of Mr. Arnott's cases, Mrs. M., there was pain and difficulty in swallowing, without perceptible redness, or swelling of the posterior fauces. She died, and the inflammation was found to have occupied a limited extent of the pharynx. There was a spot of mortification not much larger than a silver penny. The other two cases, Mr. Arnott believes to have owed their origin to the first. The second case was that of the husband of the preceding. There was diffused redness all over the posterior fauces, which increased, and the next day a blush of redness with tumefaction of the upper eyelid was observed. On the next day erysipelas had developed itself in the eyelid and was extending to the cheek. He recovered. Miss M. was attacked July 22d, with fever and sore throat, after nursing her father. There was redness of the palate, uvula, and tonsils, with some swelling. The posterior surface of the pharynx was covered with a layer of yellow glairy mucus. On the 24th, vesicles appeared on the nose, and erysipelatos redness on the cheek which extended over the whole head. She recovered.

Three of the cases given by Dr. Duncan, Jr. (Edinburgh Med. and Surg. Journal, 1821,) were attended with inflammation of the throat. Mr. Travers has given one, and there are two in the Med. Chirurg. Review, for Oct., 1835. In several if not all of these cases, death appears to have been occasioned by suffocation.

A very lucid account of the history and progress of erysipelatos inflammation, when epidemic, has been given by Dr. McDowell, as it occurred in the Dublin Hospitals in 1834. The disease was epidemic and very frequently fatal. It attacked all ages and both sexes indiscriminately, the healthy as well as the sick. Almost every kind of injury was followed by this affection. It occurred after leeching and bleeding, venereal ulcers, and even the application of liniments to the surface. Surgical operations were generally succeeded by it. It was characterised by extreme prostration of strength. Dr. McDowell divides it into three classes.

In the first, occurring in healthy persons, and usually after injuries, there was much local and constitutional disturbance. The disease was often phlegmonoid, but in other cases the skin only was acutely attacked.

The second class occurred in persons of weak constitutions and unhealthy habits, in whom the stomach and biliary organs were deranged. In these the constitutional symptoms seldom ran high.

In the third class, the subjects were persons whose constitutions were broken down by habits of intemperance, want, age, or organic disease of long standing. In this class, there was less redness and heat of surface, pulse quick and weak, fever typhoid, tongue more or less coated, dry, and brown, or red, dry, and scabrous near the apex, with elongated papillæ; the rest of the surface much loaded.

The fatal cases of this disease are generally those where the head and face have been affected, and where coma ensues before death. In these he found "much sanguineous congestion in the different tissues from the skin to the brain, serous infiltration of the loose cellular substance under the scalp, and sometimes sero-purulent fluid, white or milky appearance of this membrane between the convolutions of the brain, with abundant subarachnoid effusion into the cellular tissue of the pia mater, sinuses, cerebral veins; jugulars and right side of the heart much congested, cerebral substance firmer or softer than natural, showing numerous bloody dots."

"In most cases of protracted erysipelas, inflammation of different portions of the gastro-pulmonary mucous membrane was found, especially of the stomach, bowels, and bronchiæ, the inflammation being most intense at the bifurcation of the trachea, with frothy sanguineous effusion into the smaller ramifications. Gastritis was indicated by epigastric tenderness, vomiting, ardent thirst, loaded tongue, dry, red, and scabrous near the apex, rapid pulse, &c. the strength being very variable. Muco-enteritis was known by abdominal tenderness, of variable extent, tympanitic distention, diarrhœa, the pulse often but little disturbed, and the alvine discharges being mucous, gelatinous, with blood occasionally. When the disease spread to the large intestines, there were dysenteric symptoms."

It will be seen that the cases which came under Dr. McDowel's notice were undoubtedly cases of erysipelatoous inflammation, most of them occurring in consequence of some external injury. They were therefore proper surgical cases, cases arising from an external exciting cause. Dr. Good has also placed the disease with which infants are affected in this species. Hence the erysipelas with which children are affected, as described by Dr. Dewees, is erysipelatoous inflammation. That which occurs to certain individuals also upon slight injuries, as a prick of a pin, a burn, or an excoriation, is undoubtedly of this species. On the other hand, the acute cases, where the inflammation affects the face, for instance, without local injury, and with violent constitutional symptoms, is the erysipelatoous fever of Sydenham; the erysipelas of Dr. Good. The inflammatory affection of the throat also, noticed by Stevenson, Arnott, and others, when unattended with an eruption of the skin, if it is either, is erysipelatoous inflammation.

It seems evident, however, that there must be a mutation in these affections, that they must be convertible, if the cutaneous affection



is the same in both, which no one appears absolutely to deny. Thus in the account given by Dr. McDougal, it occurred in some cases in healthy individuals, and not in consequence of injury of any kind. Here, therefore, there was medical and surgical erysipelas prevailing epidemically at the same time. In proportion as the attack was severe, and the constitutional affection violent, the case would be a medical one, while on the other hand, if the constitutional symptoms were slight, the inflammation would demand attention. The cases which came under the notice of Sir Astley Cooper, Arnott, Lawrence, Earle, Travers, Sanson, Blandin, &c. were unquestionably cases of erysipelatous inflammation. In coming to the subject of our inquiry, therefore, into the causes, seat, and treatment of erysipelatous inflammation, it may be difficult entirely to separate the two affections, particularly in referring to other writers. I will premise that in erysipelatous fever a sthenic character, and in erysipelatous inflammation an asthenic character, will generally be found; hence the remark of M. Blandin, that physicians think erysipelas a trifling affair, surgeons a serious one: the one most generally occurring in debilitated subjects, the other in the healthy.

The case is very different when the patients are such as those described by Mr. Hutchinson (*Surgical Observations*,) robust, healthy, seamen, accustomed to live well. Here the sthenic will prevail. On the other hand, in the class described by Sir Astley Cooper, and of which the patients of most of the London Hospitals are perhaps composed—a class taken from the poorer sort of people, who lived miserably, and many of whom are addicted to the intemperate use of ardent spirits, we may naturally expect the asthenic character to be common.

According to Mr. Hutchinson, seamen are more subject to this disease than any other class of society, owing to their diet, the free use of strong liquors, and their exposure to sudden alterations of temperature, which affect the secretions of the cutis. In them it appears principally upon the lower extremities, probably owing to their being frequently wet, and to the friction of coarse clothes.

**CAUSES.**—Erysipelatous inflammation has the four principal characteristics of inflammation—heat, pain, swelling, and redness. It is therefore properly an inflammation. It differs from adhesive inflammation, in the rapidity with which it spreads, like a drop of ink upon damp paper. A clear fluid is effused, which has not the property of forming adhesions, and hence its progress is not limited as in the adhesive inflammation—where coagulating lymph is thrown out, and forms a barrier to the advance of the affection.

Adhesive inflammation is that which arises in a healthy person in consequence of a wound, or other lesion in some part of the system. It is a healthy process arising in a healthy person, and designed to repair the lesion, by which it is excited. Erysipelatous inflammation is an inflammation modified by certain causes, either



in the *part* in which it occurs, in the *subject* in whom it arises, or in the *season*, *location*, or *atmosphere*, in which it is generated. It is in other words an unhealthy and preternatural action, produced or perverted by a morbid cause.

With regard to the part of the system in which it occurs, we have seen that it may, according to John Hunter, affect any part. It is true, it commences in the skin, but there is no proof or probability that it arises from a cause applied externally, like psora or gonorrhœa. Healthy inflammation of the skin is of the adhesive kind. There is therefore nothing in its seat to account for its character.

In regard to the subject of the affection the case is different. John Hunter, whose powers of observation render a hint from him worth volumes from others, informs us that there are some persons in whom every inflammation takes this form. We find, in fact, that there are many persons in whom it is constantly occurring in different parts; and a person once affected, is, in general, more liable to a recurrence of the attack. Sometimes the hand or foot, sometimes the face, sometimes the genital organs, are affected, and each attack can be traced only to very slight causes, or to no cause whatsoever. There may therefore be considered to be in some persons a predisposition to erysipelas; in some natural, in others acquired.

This inflammation though most prevalent in summer, or according to Sir Astley Cooper, in spring and autumn, does occasionally arise in all seasons.

In regard to location, the genuine soil of erysipelatoous inflammation, is a crowded, ill ventilated, hospital; there it flourishes most luxuriantly in its worst forms. There it may be said to appear in its concentrated state, attacking persons of all ages and sexes, (as in the account given by Dr. McDowel,) healthy and sick indiscriminately, coming on after injuries of any kind; even the irritation produced by adhesive plasters being a sufficient exciting cause.

Mr. Abernethy considers this affection always the result of a disordered state of the digestive organs. In this opinion he is so far supported by other writers, that they consider it a frequent cause, and generally attendant upon erysipelatoous inflammation.

Habits of intemperance are also a very frequent cause, producing a deranged state of the digestive organs, and a debilitated state of the system, with an unhealthy or vicious performance of all the functions.

Desault attributed the erysipelatoous inflammation consequent upon wounds of the head, to an affection of the liver, excited by those wounds.

The above may be considered as the predisposing causes of erysipelatoous inflammation. The principal exciting causes are wounds, or lesions of the skin. These have already been described in the extract given from Dr. McDowel's paper.

It is however in individuals whose constitutions have been

broken down by intemperance, long continued organic disease, old age, or other causes, that erysipelatous inflammation occurs more readily, and in its worst forms. In these cases it has more of an asthenic character. On the other hand, in proportion to the healthy state of the individual, and the soundness of his constitution, the characters of the disease will approach nearer to those of healthy, active inflammation. There are also idiosyncrasies rendering some individuals much more predisposed than others to the disease. There is a constitutional susceptibility or insusceptibility, such as we find in regard to cow-pox, small-pox, &c. In proportion to the violence of the epidemic, and to its concentration, will be its tendency to overcome a certain degree of constitutional insusceptibility. In proportion to the constitutional predisposition, on the other hand, other things being equal, or in other words, as the predisposition to the disease is greater, will the inflammation approach nearer to the worst form of erysipelatous inflammation.

Dr. Williams (*Elements of Medicine*—*Morbid Poisons*), who is a thoroughgoing contagionist, allows that it may be determined with certainty whom erysipelas will attack, to wit—the convalescent from fever, the dropsical, the syphilitic, and the scrofulous.

Where there is a strong predisposition to the disease or where it is purulent, the slightest injury is sufficient to produce it. Sir Astley Cooper informs us that the surgeons of the English hospitals were formerly deterred from operating in the spring and autumn, because the irritation produced by the strap of adhesive plaster employed to bring the edges of the wound in contact, occasioned erysipelatous inflammation.

Operations from the smallest to the most important—cupping, leeching, venesection, a burn, or any excoriation of the skin, the prick of a needle, the application of rubefacients or irritative plasters, in short the slightest irritation of the skin, will give rise to the disorder, under circumstances such as those described by Dr. McDowel, that is to say, in a crowded hospital, where erysipelas prevails. The same causes will excite it in any individual otherwise situated, who is strongly predisposed to erysipelatous inflammation. According to Dr. Johnson, the kind of erysipelas is modified by the kind of wound. A mere prick or scratch is usually followed by cutaneous erysipelas, a deeper wound produces either diffuse cellular inflammation, or erysipelas phlegmonoides, a lacerated wound being more likely to produce it than a punctured wound, and a punctured wound more likely than a clean cut.

Certain articles of diet, according to the same writer, notoriously occasion erysipelas. Shell-fish, and salmon, frequently do it, and in some individuals always do it. Acids have been known to do it.

Is contagion a cause of erysipelatous inflammation? According to Dr. Good, erysipelas is contagious, but erysipelatous inflammation is not so. Here we suspect Dr. Good was misled by theory. Erysipelas he considered a constitutional affection, erysipelatous inflammation a local one; the local disease could not produce

contagion. The fact is, if either is contagious, erysipelatoous inflammation is so. It is the latter that spreads so alarmingly in hospitals; while we are constantly meeting sporadic cases of erysipelas which are not communicated to those most exposed to it. But is erysipelas contagious?

There are many who deny that erysipelas is generally contagious; but affirm that it is so in some cases. Dr. McDowel affirms that he has known it occasionally contagious, though in the epidemic, his description of which we have quoted, he says he could see no proofs of its contagiousness. Several other writers, of high reputation, say that they have known cases of undoubted contagion.

Others go much further. Mr. Travers, (in his Inquiry concerning Constitutional Irritation,) affirms that the proofs of the contagious character of the disease are more decisive, and unfortunately more abundant, than of almost any one with which he is acquainted.

Dr. Robert Williams, in his recent work on morbid poisons, is equally decided in his opinion of the contagiousness of erysipelas. Dr. Williams refers to the paper of Dr. Wells of St. Thomas's Hospital, published in the second volume of the Transactions for the Improvement of Medical and Chirurgical knowledge.

As the cases collected by Dr. Wells are so much referred to by other writers, and as previous to his communication the disorder does not seem to have been suspected of being contagious, it may be well to quote them somewhat at length in this place.

On the 30th of May, 1796, he visited William Emerton, who had erysipelas upon one of his legs. He was then somewhat delirious, and a few days after he died.

On the 10th of June, Dr. Wells was desired to see the widow of the above. She had low fever of a bad character. There were upon the skin several irregularly shaped patches of a bright red colour, and of the size nearly of a half crown piece, but the parts so affected were not elevated, and gave no pain upon being touched. One of her arms was considerably swelled and appeared livid; but there was no visible disease of the outer surface of the true skin of the arm, nor was the scarf skin separated from it. She died the same day. As she had been constantly in the same room with her husband, and as her disorder bore some resemblance to erysipelas, Dr. Wells suspected it was communicated from her husband.

On the 8th of August, Dr. Wells visited a man of the name of Skelton, who died about a week after, with erysipelas of the face. On the 19th of September, he visited the landlady of the above, Mrs. Dyke, whom he found labouring under erysipelas of the face, and on inquiry, found that the wife of Skelton had been seized with it a few days after his death, and died in about a week. While Mrs. Dyke was sick, her nurse was attacked with the same disorder. A nephew of Skelton was seized with the disease, a few days after visiting him, and died. The neighbours were deterred



from visiting Mrs. Dyke, by a report that the plague was in her house.

In December, Dr. Wells visited Mrs. Hunter, who had erysipelas of the face. She had about ten days before been with a friend who had St. Anthony's fire in her face, and died a few days after, and Mrs. Hunter had assisted in putting the body of her friend in the coffin. Two sisters of the deceased, and two servants of the family, one of them an old woman in whom it proved fatal, the other a young girl, had all been ill of the same disease. Three of these persons lived in one house, and two in another. Mrs. Hunter recovered in a few days and no other person in the family was attacked. In proof that it was not epidemic in the neighbourhood, Dr. Wells mentions that he saw only two other instances of the disease at this time. These two occurred in one house, and one of the patients was seized a few days after meeting the other, while in a convalescent state, upon a narrow staircase. He also mentions several cases observed by Mr. Whitfield, apothecary of St. Thomas's Hospital, Dr. Pitcairne, and Dr. Baillie.

Mr. Whitfield says, that in 1760, a person labouring under erysipelas of the face was brought into St. Thomas's Hospital, and died; that from some accident a patient having a different disease was put into the same bed, before it was properly aired, he was shortly afterwards seized with erysipelas of the face. Several other persons were about the same time attacked with this disease, among whom was the upper nurse or sister, who died. Hence arose a rumour that the plague was in the hospital.

Dr. Pitcairn attended a lady in February, 1797, who was attacked with a fever immediately after being delivered of a child, which was accompanied with an affection of the skin somewhat like erysipelas; her child about three days after birth, was seized with that species of erysipelas which the French call *lagelure*, which first appeared upon the pudenda, and then extended itself to other parts, among the rest to the face. Both lady and child died after a few days illness. About eight days after the death of the child, the lady's mother and servant maid, both of whom had attended it, were attacked with erysipelas of the face, from which both recovered.

Dr. Baillie says, that during the years 1795 and 1796, erysipelas of the face was much more frequent at St. George's Hospital, than he had ever known it before. Many persons were attacked after they came into the house, especially those in a particular ward. He mentions a case on the authority of another practitioner, which he thinks unquestionable. A lady came to London to attend a friend who had erysipelas of the face, and was assured by the physician of the latter that the disease was not contagious. In a few days, however, she was seized with erysipelas of the face. A hired nurse was also attacked with it during her stay with them.

In the twelfth volume of the London Medical Gazette, an account



of six cases of erysipelas is given, as affording proof of its contagiousness. Their history was briefly as follows.

1st. William Parfitt received an incised wound on the scalp from an ox. About sixteen days after he was attacked with erysipelatoous inflammation, commencing in the wound, affecting the head, and attended with delirium and coma.

2d. About a week after, Anne Parfitt who had been his nurse, was attacked slightly.

3d. The father was next attacked, a man broken down by intemperate habits, and in him it proved fatal.

4th. Another sister twenty-six years of age, who had waited on her father and brother, was next affected. She recovered.

5th. Daniel Parfitt, a brother who had lately come home, affected with low fever, became the subject of erysipelas the day after the patient last mentioned.

6th. David Parfitt was seized with the disease about ten days after Daniel.

Mr. Burg adds, that he had not seen erysipelas in the neighbourhood for four months before he witnessed it in the case of William Parfitt. One other person only was affected, and that was the aunt of the above. She had watched two or three nights with the person first attacked.

Cases of this kind, however, prove nothing with regard to contagion, more than the extension of the disease in hospitals. For, in the first place, there is no proof that the first patient would not have had erysipelas, if he had not received the wound; at all events the wound was only the exciting cause, and had any other member of the family received it, it might have occurred in them. They were persons of the same hereditary constitutions, occupying the same residence, using the same food, probably bad, (an inference we may draw from the habits of the father.) Fatigue and watching was the exciting cause in the second individual seized. The same causes, fatigue and anxiety produced it in the father, and acting upon a system worn out by intemperance, &c. were fatal. Such circumstances will account for the extension of the disease, without contagion, in accordance with the general principle of epidemics. The same remark applies as strongly to hospital cases, with the exception of hereditary similarity of constitution being wanting in the latter. On the other hand, the patients of a surgical ward, being generally the subjects of wounds or injuries, are placed in a similar position to each other.

The following cases, published by Dr. Macklachlan, in a late number of the *Edinburg Med. and Surg. Journal*, though not given by him as proofs of contagion, are yet stronger evidences of it than those mentioned above, being free from the objections made to those cases, in as much as the subjects were not resident in the same house, nor members of the same family.

CASE I.—A soldier who had been in the hospital with angina pectoris, had a seton inserted in his neck. Ten days after this,

erysipelas commenced in the wound, spreading slowly over the scalp and face and chest, threatening dissolution.

CASE II.—James Smith, aged thirty-one, entered the hospital with slight superficial wound of the scalp, and was placed in the same ward, about twenty feet distant. On the fourth day after admission, (March 12th) the wounds became puffy, tender, and discharged on pressure a thin ichorous fluid. In the afternoon erysipelas commenced. The face soon became frightfully swollen and distorted, the eyelids suppurated and sloughed. Alarming typhoid and cephalic symptoms appeared, coma supervened about a week before the termination. He died on the 26th.

CASE III.—Was that of a debilitated paralytic young man, who had a seton applied about ten days after the patient last mentioned. He died comatose.

CASE IV.—A case of phlegmonous inflammation, occurred in a patient affected with pneumonia, who had been blistered; he recovered.

CASE V.—A woman living in the vicinity, employed to wash the clothes of Smith, had an attack on the face and scalp.

CASE VI.—A young person waiting upon the one last mentioned was similarly affected.

These were the only cases that took place in the neighbourhood. Several cases of erythema anatomicum, or of diffuse cellular inflammation, occurred among the persons employed about the bodies of the above patients, in whom it proved fatal, in consequence of the absorption of matter through slight punctures of the skin.

The cases published by Dr. Stevenson were considered nearly all as proved to have arisen from contagion. The details of those cases are, however, so brief, that the reader has no means of judging for himself. The mere fact of one patient having visited another previously to having the disease, is no proof of contagion. Mr. Arnott's cases in which the patients were all members of one family are liable to the same objection as the Parfitt's. The fact that Mr. Arnott, though he admits the contagious nature of erysipelas of the face and throat, considers it not contagious when it appears elsewhere, is a strong argument that erysipelatous inflammation, is not at least in general contagious; otherwise Mr. Arnott as a surgeon would surely have seen instances of it.

In a report of surgical cases, that occurred at the Glasgow Royal Infirmary, Dr. Davidson has given an account of some cases of erysipelatous inflammation, that came under his charge in two wards in which it prevailed epidemically, June 8th, 1836. The first patient in whom it appeared, was an unhealthy, unmarried woman, who had undergone amputation of the breast. She died in about a fortnight. The second case was that of a woman who had cancer of the breast, in whom it arose at an excoriated point of the tumour, a few days after the other. She died in about four days. After this many other cases occurred. Notwithstanding every precaution that was taken to cleanse, fumigate, and ventilate

these wards, and to keep them closed for a month, the disease reappeared in October, and in the course of this and the next month, almost every patient in these wards, was affected. It is only in these wards, that this disease has prevailed epidemically for some years past. They are at the top of the house and well ventilated.

On two or three occasions, almost all the patients of a particular ward have been affected, in rapid succession; the first case being generally a solitary one, either originating in the house, or brought to it, while labouring under the disease. Dr. Davidson queries, whether the promiscuous use of sponges and towels, &c. can have any effect in producing the extension of the disease?

According to Dr. Doepp, seven children who were vaccinated from one at St. Petersburg, had erysipelatoous inflammation. He does not, however, consider the disease contagious, neither is it so considered at that place.

Sir Astley Cooper, in his lectures, speaks of the disease as contagious. Notwithstanding, however, all the evidence that has been brought forward in support of contagion, there are still a large proportion of the medical world, who remain unconvinced. The contagionists in general do not sufficiently discriminate between the laws of contagious diseases, and those of epidemics not contagious.

It will ever be difficult to prove the contagiousness of a disease. Persons exposed to the foul air of a crowded room; persons belonging to the same family, or living together on the same diet, in a similar manner, and under similar circumstances, will be exposed to the same epidemic diseases. It is very common for us to find several members of the same family attacked successively by diseases which no one considers either epidemic or contagious. The effect of the imagination in producing nervous diseases by imitation, is well known. It is generally allowed that the timid and fearful fall victims most readily to epidemics or contagion, while the resolute and fearless escape. John Hunter tells us, that he could at any time produce a sensation in a particular part of his body, by fixing his attention steadily upon that part. Now is it not probable that, in diseases not contagious or epidemic, the attention being insensibly called to a part predisposes that part for the reception of the disease? Is there not this sort of sympathy of organs; of course through the medium of the mind, but the mind being entirely unconscious? In some the predisposition thus created will be very slight, in others very strong, according to the impression made upon them by witnessing the disease, and the readiness with which their organic functions were influenced by the mind. It would seem that all other circumstances being the same, a person is more liable to have a disease similar to one he has recently witnessed, than one which he has never seen. Is there not some proof of this, in the fact of our so frequently finding individuals of the same family attacked with similar diseases? This however, is a mere suggestion; there are abundant causes for the



propagation of epidemic diseases, without making any such explanation necessary.

The statement of Dr. McDowel, that although he had seen in former years undoubted evidence of the contagiousness of the disease, yet in the epidemic, of which he gives us an account, severe as it was, he saw no proof of its contagion in any one instance, is strongly against the general contagiousness of the disease.

Under many circumstances in which the small-pox arises, we might account for its extension, without allowing its contagiousness. If, however, a person setting sail from another port where small-pox prevails, is landed in Boston, at a time when no cases are known to exist here; and if he takes up his residence in a house, and is there attacked with small-pox—if all those, or nearly all those who continue to reside with him in the house, and who have not been vaccinated, are attacked in the same manner, and if those who leave the house, go to different towns or villages, and are subsequently attacked, and communicate the disease to those around them in each place, and if those who visited at the first house, are shortly after attacked at their own residences, the chain of evidence is pretty strong that small-pox is generally contagious. Formerly, it would have been easy to furnish these proofs of the contagiousness of small-pox. Now, happily, owing to the general prevalence of vaccination, it might be difficult. But if erysipelatous inflammation, or erysipelas, is as contagious as small-pox, we ought to have as good evidence that it is so. But this is not the case. Let the inmates of a hospital affected with erysipelatous inflammation be dispersed, and placed in healthy situations, and they either die or get well, and the disease ceases. They do not communicate the disease in places to which they are removed. Ample and abundant proof might be brought, that erysipelatous inflammation is not always or even generally contagious. With regard to erysipelas or erysipelatous fever, we are constantly meeting with sporadic cases, which occur singly; the disease not extending to those who live with, or attend upon the patient, while instances of more than one of a family being attacked, are comparatively rare.

On the whole, we do not presume to affirm that erysipelatous inflammation is never contagious; but only that in the present state of the question, there is no decisive proof that it is so. It certainly is neither universally nor generally contagious.

SEAT.—True or proper erysipelatous inflammation, all authors agree, commences in the skin, and affects the skin only. Hence writers have variously named it, simple, genuine, exanthematic, and its varieties, acute, chronic, periodic, fixed, ambulant, erratic, saltant, or volatile, miliary, vesicular, bullous, phlyctenoid, idiopathic, traumatic, sympathetic, bilious, and gastric.

Always arising in the skin, the true erysipelatous inflammation has a tendency to affect the cellular membrane beneath, where



collections of matter are formed, the skin is rendered exceedingly tense; suppuration takes place rapidly, and as this inflammation does not ulcerate, the matter works its way through the cellular membrane, which is finally destroyed, and the skin detached, in cases where the constitutional symptoms are not sufficiently severe to produce death.

Mr. Hunter expresses some doubt whether this is the true seat of erysipelatoous inflammation, and some modern writers, as Mr. Earle and Mr. Arnott, have attempted to restrict the term, to the affection of the skin only. It would, perhaps, have been better, if Mr. Hunter's suggestion had been attended to, but writers succeeding him have so universally applied the term to the inflammation extending to the cellular membrane, that it is now impossible to limit its use to the former only. In fact, if, as it appears to be generally conceded, the true erysipelatoous inflammation has always a tendency to affect the subjacent cellular membrane, and if the latter is generally in some degree involved, the distinction is perhaps hardly practicable or important.

But if erysipelatoous inflammation affect the cellular membrane, we shall be likely to find it in every part of the body where cellular membrane exists, or at least in every part where it is in contact with the skin. When we find mucous surfaces affected by it, such as the vagina, the rectum, the mouth, throat, &c. we must attribute its origin to the skin and cellular membrane, from which it extends, by sympathy, or irritation, or metastasis. It is probable also that in those whose skin is thick, and vessels sluggish, the same cause that would produce true erysipelatoous inflammation in others, affects the deeper seated tissues, giving rise to inflammation of the fauces, vagina, veins, &c. Hence it is principally in old people that these membranes are affected. In the venous phlegmonous inflammation of M. Sanson, the skin is the part first affected, and the difference in symptoms is naturally such as may be ascribed to difference in age, texture of the skin, and activity of the vessels.

M. Sanson, as we have seen, supposes that in at least one form of erysipelas, the veins are the primary seat of the disease. M. Ribes found the internal coats of the small vessels inflamed, and supposed the disease attacked principally the small cutaneous veins. M. Rayer says, that he has frequently met with true inflammation of the principal veins, in limbs that were the seat of phlegmonous erysipelas or simple phlegmon. He thinks phlebitis a complication of the inflammation of the cellular tissues, more commonly than that of the skin.

The cases of inflammation of the throat, considered as erysipelatoous, and furnished by Dr. Stevenson, Mr. Arnott, Travers, Johnson, &c. have already been spoken of. Mr. Hastings also mentions an inflammation of the throat, as frequently attendant upon erysipelas in the hospitals. Mr. Hunter says, "there is an inflammation which attacks the internal canals, which is classed with the

erysipelatous, but how far it is the same I do not know. It is certainly not the suppurative, and as almost every other inflammation was formerly called erysipelatous, this has been supposed to belong to this kind of inflammation. The inflammation I am speaking of is more common to the throat than to any other part, after going down the trachea. Whatsoever the inflammation is, it is certainly attended with nearly the same kind of constitutional affection. The fever in both appears to be the same, viz. accompanied with debility, languor, &c. It produces adhesions, where the adhesive inflammation seldom takes place, except from extreme violence; hence it opposes suppuration in those places where suppuration most easily takes place, as in canals and outlets; for there it more easily throws out coagulable lymph.

In persons who die of erysipelatous inflammation, the face and head are generally the seat of disease. Hence the brain, with all its membranes, is generally more or less engorged. The congestion arises from metastasis, or revulsion, or perhaps from the impediment afforded to the circulation. We cannot consider the brain ever the seat of erysipelatous inflammation. We come therefore to the conclusion, that the skin and cellular membrane are the seat of erysipelatous inflammation: that it tends to proceed to the subjacent cellular membrane, and form phlegmonous, erysipelatous inflammation, (the erysipelas phlegmonodes of Galen,) that in some individuals, the mucous membranes become affected, and sometimes the coats of the veins, either by sympathy, by the pressure of the inflamed and swollen parts around, or by metastasis.<sup>1</sup>

We have before alluded to the distinction between this and diffuse cellular inflammation—that the first arises in the skin. Mr. Lawrence does not allow this distinction, but says, that he has never observed this priority. He therefore includes diffuse cellular inflammation, erythema atonicum, &c. in his observations upon erysipelatous inflammation. Most other writers allow the distinction. This proceeds from without inwards, the other from within outwards; erysipelatous inflammation, however, often occurring as a complication of the other.

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## TREATMENT.

Sydenham's method of treating erysipelatous fever consisted in free venesection at the onset. The next day he gave a cathartic, followed by a paretic draught at bedtime; with fomentations,

<sup>1</sup> According to Dr. Gregory (Practice of Physic,) the mucous membrane lining the passages of the throat, vagina, &c. may be considered a continuation of the skin; and hence erysipelatous inflammation may affect these passages without leaving its true seat.

and afterwards stimulant lotions. A single bleeding and purge, he says, generally effect a cure, provided they are used in time. But in cases where the fever is high, he sometimes repeats the bleeding a second and a third time, interposing a day between each. Diet, water gruel and barley broth. There is, he says, another kind of eruption, wherein no evacuations avail. In this all antiphlogistics are hurtful; and wine, and flesh of easy digestion, must by all means be allowed.

Hunter, considering erysipelatus inflammation as a disease of weakness, recommends the use of bark. It is evident that Hunter being called to treat surgical cases, and Sydenham medical, Hunter must have had a greater proportion of asthenic cases, cases wherein erysipelatus inflammation arose in consequence of wounds, operations, &c. in debilitated subjects.

Mr. Lawrence is one of the strongest advocates among surgeons, in favour of depletion. Venesection, local bleeding, and purging and low diet, according to him, are the first measures to be attended to, to which saline and diaphoretic medicines may be afterwards added. Vigorous treatment in the beginning, he affirms, will cut short the attack, and prevent the disease spreading beyond the original seat. But Mr. Lawrence adapts his treatment to the age and constitution of his patient. In young persons, and in those of full habit, where the pulse is full and strong, or where there is headach and white tongue, in erysipelas of the head with symptoms denoting affection of the sensorium, and more particularly in the very beginning of the affection, it will be proper, and may be necessary, to bleed largely, to repeat the evacuations, and to follow venesection by local abstraction of blood, by means of leeches or cupping. The alimentary canal must be cleared by an active purgative, followed by salines, and antimonials, with the occasional use of milder aperients. Low diet. "Nothing can be more different from such a case, than that of an elderly person, with a small feeble pulse, in the advanced stage of the disease." "I have often seen such patients labouring under erysipelas of the face, in its advanced stage, with rapid and feeble pulse, dry and brown tongue, recovered under circumstances apparently so desperate, by the free use of wine and bark." "The intervals between these extremes is filled up by numerous gradations requiring corresponding modifications of treatment. The antiphlogistic plan embraces a wide range, in point of degree, from blood-letting, local and general, to the exhibition of a mild aperient, with some saline medicine." He says that almost all the cases in young persons which he has seen, proceeded from external causes, and the stimulant and antiphlogistic treatment has been injurious under such circumstances. Mr. Lawrence quotes, in support of the practice of venesection, the authorities of Cullen, Vogel, J. P. Frank, Joseph Frank, Dr. Duncan, jr., and Roche and Sanson. On the other hand, it is opposed by Fordyce, Willan, Bateman, Carmichael, Smith, and Pearson. Mr. Lawrence allows, that "when the

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redness and swelling are gone, when the pulse is quiet, and the tongue clean, that is, when the patient is well, there can be no great objection to the bark." When there is any doubt, whether stimuli should be employed or not, he prefers the subcarbonate of ammonia.

Mr. Abernethy, who considered erysipelatous inflammation as occasioned by a local cause, acting upon a subject predisposed to it by previous irritation of the digestive organs, simply orders the bowels to be kept regular, the stomach clear, and something soothing applied to the inflamed part. In order to remove this disorder of the alimentary canal, he speaks highly of calomel and jalap.

The treatment of Desault is not very different from that of Abernethy. It consists of the exhibition of tartarised antimony, one grain in a large quantity of water for a dose. A single grain of the emetic was sometimes sufficient; but in other cases it was necessary to repeat it two and even three times. His local applications were a cataplasm, moistened with some resolvent liquor, or compresses steeped in a similar lotion.

Mr. Arnott recommends venesection in young subjects, and under circumstances similar to those mentioned by Mr. Lawrence. Aperients and purgatives he finds almost invariably useful, and when there is a foul state of the stomach, he gives tartarised antimony with opium. Cold spirit lotions are applied externally.

M'Dougal employed general or local bleeding, calomel and neutral salts; and, when there was irritable stomach, purgative enemata and saline effervescing draughts. If the disorder did not yield, he exhibited two or three grains of calomel with a small portion of opium every fourth or sixth hour, until the mouth was affected. Where acute erysipelas is limited to the skin, he applies leeches. In traumatic erysipelas, Dr. M'Dougal employed fomentations, emollient poultices, and sometimes cloths dipped in cold water. In the second class of cases he describes, general bleeding was inadmissible; leeches, blistering, and the nitrate of silver lotion, were sufficient. In the third class he was forced to resort to the free use of wine or porter, beef tea, quinine, carbonate of ammonia and opium.

Dr. Macfarlane, of Glasgow, (in a volume of clinical reports, 1834,) says, that there are certain cases which require tonics and stimulants; yet in the majority of cases, erysipelas is more effectually controlled by venesection, local bleedings, emetics, purgatives, diaphoretics, &c. As local applications, he recommends spirit lotions; but if there is much vesication, dry flour or fleece cotton.

Mr. Travers (Inquiry concerning Constitutional Irritation) recommends a middle course, between active depletion and the use of stimulants.

Mr. Mackenzie (Diseases of the Eyes) recommends, as an emetocathartic in this disorder, one or two grains of tartarised antimony, with an ounce or two of sulphate of magnesia, dissolved in two pints of water, and given every two hours. In robust subjects he



says, venesection may be practised with advantage; but not in the aged and debilitated. He thinks that saturnine lotions are highly beneficial.

Dupuytren employed a treatment similar to that of Desault, administering an emeto-cathartic, or tartarised antimony, in bilious habits. Where there was well-marked debility, as in old persons, he considered tonics indicated.

M. Rayer, (*Diseases of the Skin*, 1835,) recommends free venesection in the majority of cases, and local bleeding. In mild cases, lotions with cold water, he says, are sufficient. In erysipelas of the head, advantage may be derived from mustard foot baths, vesicatories to the legs, and laxative injections. Where there is no inflammation of the digestive organs, M. Rayer recommends tartarised antimony in emetic doses. This practice he says, has a great number of partisans. (*Dict. de Méd. et de Chirurg.*)

Mr. Liston, in his *Elements of Surgery*, lately published, says that in mild cases of erysipelas, attention to the state of the bowels, and regulation of the diet will be sufficient; but in the severer cases, he recommends the resort to free incisions or punctures, in an early stage, in order to prevent suppuration; as well as after suppuration has taken place, to give free issue to the matter. He disapproves of all local applications, flour, chalk, and camphor, being of little use and producing irritation; while cold applications are fraught with the utmost danger from their tendency to produce metastasis. Some accounts have been published in the *Lancet*, of trials by Mr. Liston, of belladonna and aconite given internally. In the cases mentioned the trials were successful. Mr. Liston notices the difference in hospital cases from others, patients in civil hospitals being generally in a weak state before the accession of this disease, and hence requiring stimulants.

Sir Astley Cooper's method (*Surgery*, by Lee) is to give calomel freely in the first instance, to restore the secretions of the liver and the intestinal canal. In the debility consequent upon the first stage of the disease, he recommends quinine or the common tonics; and in patients of the lower class, who are addicted to the free use of spirits, he has found benefit from allowing them gin. He recommends the local application of camphorated spirits of wine in the first stage. When the blisters are about to break, or have broken, powdered starch should be applied, and if gangrene should take place, a port wine poultice, or a nitrous acid lotion, in the proportion of one dram of the acid to a quart of water.

Dr. Dewees, in speaking of the erysipelatoous inflammation of children, advises that in the early stage of the disorder the child should be freely evacuated, but not severely purged, by small and repeated doses of calomel. If the fever run high or is attended with strongly marked cerebral inflammation, blood is taken from the arm, or leeches are applied to the temples. But when suppuration commences, or when there is a tendency to gangrene, the system becomes enfeebled, especially if the disease is epidemic, and

then the bark, he says, is absolutely necessary. When the motions of the bowels become too frequent, he checks them with chalk mixture.

In Dr. Stevenson's cases in which there was inflammation of the throat, he found the most successful treatment to consist in copious and repeated blood-letting, and in the application of leeches to the neck, a measure which was never omitted when the affection of the throat was severe.

In the cases of a similar kind published by Mr. Arnott, the treatment was also antiphlogistic. In the first, eighteen ounces of blood were taken from the arm, and leeches were applied to the throat, which afforded much temporary relief to the difficulty of swallowing, &c. In the second case, the treatment was strictly antiphlogistic in the outset; and when the violence of the symptoms abated, stimulants and tonics were resorted to with opiates at night. Some wine given when the patient appeared sinking from the effect of purging, evidently did harm. In the third case, eighteen ounces of blood were taken from the arm, with tonics in the subsequent stage.

In one case given by Mr. Cox, (Med. Rep. April, 1825,) the oil of turpentine given combined with castor oil, by the mouth, and per anum, seemed to have a very beneficial effect. The patient was a female with erysipelas of the scalp, face, and breast; coma, insensibility, and other symptoms of a fatal event, were present. The medicine produced several offensive stools, with marked relief; and the patient recovered. As turpentine is a useful cathartic in cerebral affections, it may be considered very applicable in cases of this kind, where the head is affected, and the patient in a sinking condition.

The authors we have above quoted, nearly all of them, recommend an antiphlogistic course of more or less vigour. Most of them advise blood-letting. There is another class of writers, at the head of whom is Dr. Fordyce, who deny the benefit of antiphlogistics, and recommend an entirely tonic plan.

Dr. Fordyce (Trans. of a Soc. for Med. Improvement, 1793) says he has always found bleeding and other evacuations hurtful. Peruvian bark, given in substance in as large a quantity as the patient can bear, commonly a dram every hour, he considers the best remedy that can be employed; and is almost always successful, in pure erysipelatous inflammation, unmingled with phlegmonous inflammation, or increased secretion of the mucous glands.

Dr. Wells (in the second volume of the same Trans.) supports the same method of treatment, which he adopts with the expectation of cutting short the disease. Dr. Fordyce, he informs us, has been accustomed for twenty years to give the doses above mentioned at St. Thomas's Hospital.

Dr. Robert Williams (Elements of Medicine) has advocated the use of tonics, particularly wine, in erysipelas, and since the publi-

cation of his work it seems to have been adopted in various parts of England.

Mr. Graves, at the Meath Hospital, Dublin, where the disease occurred in patients already debilitated by fever, gave first an emollient clyster, succeeded by a clyster containing from five to ten grains of quinine in mucilage of starch, twice a day, with wine and light nourishment. (*Med. Gazette*, January, 1837.)

Mr. Henry Bullock, in the same volume of the *Medical Gazette*, advises the administration of wine in all cases, which he says is the method now adopted at St. Thomas's Hospital with great success. In diseases dependent upon morbid poisons, he says, it does not do to trust to symptoms. But it may be asked, if erysipelas is a morbid poison, which is by no means proved, does the tonic treatment answer in all morbid poisons? Is it found that wine is a specific against the poison of measles, of scarlatina, of small-pox, or of any other morbid poison? If we are to treat a disease not according to symptoms, because it is a morbid poison, it must surely be by the use of specifics and antidotes. But as long as it remains doubtful whether we have a single specific in the pharmacopæia, and more than doubtful whether we have any that neutralise the morbid poisons, the rational method must be at least safer than the empirical. When wine, bark, or any article is *proved* to be an antidote to erysipelas, then and not till then we may give up attention to the symptoms.

If we have a specific in medicine, it is mercury in syphilis; yet notwithstanding it has been used for years, there are still very many who deny it this title; and in fact it has often been found to fail. Its action too in syphilis may be accounted for, upon the same principle as in other diseases, its alterative properties, its effects upon the secretions, upon the liver, &c. I believe it is now generally allowed that it is as an alterative merely, not as a specific, that it acts in syphilis. But if mercury is not a specific, then we have no such thing as a specific. Nothing then can have a more mischievous tendency than this doctrine, that diseases are not to be treated according to symptoms.

Dr. J. Green recommends the use of hot air, and particularly the sulphur fume baths, in the more indolent and chronic forms of this disease, especially if in the lower limbs, and attended with much œdematous swelling.

The writers from whom we have quoted above, direct their principal attention to the constitutional treatment. We shall now consider the principal methods that have been applied to the local treatment of the disease.

The principal of these are the application of a blister over the inflamed surface, or above the inflamed portion, upon the sound part, around the limb; nitrate of silver over the inflamed and border of the healthy skin; mercurial friction; leeches to the inflamed surface, or to the lymphatic ganglions; bandaging the limb.

The application of a blister to the inflamed part was used, we

are told, in the time of Ambrose Paré. It seems, however, to have been neglected or fallen into disrepute, until revived and made popular by the sanction of Dupuytren. In this country, Dr. Physick first brought it into notice. The view which led to its application is undoubtedly either to give issue to the matter, as no ulceration takes place spontaneously in this inflammation; or to change the action of the parts. Dr. Dewees speaks of this application as attended with good effects which are wonderful. He has frequently succeeded with it both in the adult and in the child, and it is perfectly safe, when the part is such that a blister can be applied to it. The blister should be so placed as to rest firmly upon the sound skin, and should be dressed as in other cases. When the situation of the part, or any other cause, renders a blister inexpedient, Dr. Dewees employs strong mercurial ointment. Dr. M'Dougal also speaks highly of the good effects of blisters.

M. Rayer, (*Dict. de Médecine et de Chirurgie*, vol. 7th.) and Messrs. Roche and Sanson, recommend this method to fix the ambulant erysipelas; but neither of the three last mentioned authors speak very favourably of it. "This method," says the latter, as quoted by Mr. Lawrence, "always occasions severe pain, usually leads to the formation of an abscess, and sometimes causes mortification."

Blisters have been employed in this affection in a somewhat different manner. Mr. Hutchinson, in a letter published in Dr. Butler's work on irritative fever, says he recollects an instance of the application of a blister round the arm, which stopped or seemed to stop the progress of the disease; for the inflammation did not extend beyond the blister, and the patient recovered. John Hunter, in a note before quoted, says, that if the inflammation is such as to contaminate while it spreads, but is cured after it has acted, then the proper course would be, to destroy the parts beyond it, so as to stop its progress. This hint, whether founded or not upon a probable hypothesis, may have suggested both the practice of Mr. Higginbottom, and that of which we are now speaking. The same effect also is answered still more effectually, by the actual cautery of Baron Larrey. This manner of applying the blister seems to be free from some of the objections made to it when placed upon the inflamed surface, and it is well spoken of by those who have employed it. It should be so placed as to completely encircle the limb, immediately above the inflamed part. An interesting case of the successful application of blisters is given by Dr. Ware in the first volume of the *Boston Medical and Surgical Journal*.

The application of nitrate of silver to the inflamed surface and neighbouring sound parts, as proposed by Mr. Higginbottom, has met with considerable favour. He applies the caustic to the sound skin, for a space of about two inches bordering the inflamed part, as well as upon the surface of the latter, breaking the vesicles when there is vesication; but allowing the vesicles produced by the caustic to remain undisturbed. In the cases which Mr. Higginbottom has



given, it is difficult to decide whether the disease was cut short by the application. It is possible, however, that fatal metastasis is often prevented, and this must be the principal advantage to be derived. M. Rayer speaks of several trials of this remedy by himself as not uniformly successful. Dr. McDougal speaks very favourably of its success in the epidemic above described, but he found a blister preferable, where the situation of the disorder admitted its application. Dr. Davidson found incisions highly beneficial. Mr. Lawrence, Mr. Liston, and Mr. Hutchison, the original proposer of this method, considering that, at least where erysipelas prevails in a crowded city, in every severe case the cellular membrane will soon become affected, collections of matter form, and the disease progress so rapidly as to be beyond the reach of treatment, are for employing incisions in the commencement of every severe case, without waiting for the formation of matter. They were practised by Dr. Davidson, in various parts of the affected region, to the extent of from one inch and a half, to two inches and a half; these he tells us were more beneficial than leeches or punctures. He found that the solid nitrate of silver succeeded in a great majority of cases, in preventing the spreading of the inflammation. He applies it to a sound part of the integument, a part where there is no swelling or redness, but as near to the inflamed part as possible. The inflamed part is to be encircled by the caustic line. This may be done by wetting with a large hair brush the part upon which the caustic is to be applied, and then rubbing a cylinder of caustic very freely over the moistened surface. Distinct vesication should be produced over the whole surface to which caustic is applied. The editor of the *Med. Chirurgical Review*, and others, speak highly of the nitrate of silver.

Mercurial friction has been highly recommended by some writers. Dr. Little and Dr. Dean, of America, contest the merit of introducing it into practice. The warmest advocate in its favour appears to be M. Serre. He speaks of it in terms which, if they found general credence, would settle the question at once. The application of strong mercurial ointment, according to him, continued for two days, will remove the disease if confined to the skin. If it continues after two days, we may be sure that suppuration has taken place, and incisions must be resorted to. He wishes the effect of this remedy to be taken as a sure test of the existence or non-existence of matter. It is to be feared, however, that while there continues to be such a variety in human constitution as at present, we shall never be able to form so certain a conclusion from a remedy in any disease; and in this least of all. Dr. Dewees advises the use of mercurial ointment in cases where blisters cannot be applied around the sound part. M. Rayer opposes this practice, as in his experience useless. Sir B. Brodie, some years since, in consequence of the benefit which had been reported to result from this application, and the ill effects which had attended its use, by producing excessive salivation, determined to make trial of simple

lard as a substitute, believing that the virtue of the ointment in this disease consisted simply in the unctuous matter. The result of his experiments convinced him that such was the case, and that this simple application answered all the purpose of the mercurial ointment. It is obvious that this is not the principle upon which it has been used: the object being to alter the unhealthy secretions of the part and restore healthy ones, by means of the well known properties of mercury. Dr. Dewees employs the strong ointment, and M. Serre considers it of no effect, unless mercurial ointment of a requisite strength is employed. Dr. M'Dowel and Mr. Reid, the latter of whom gives an account of its use in Mercer's Hospital, speak very highly of it. It is more applicable in children than in adults, as the former are not so easily salivated. Where there is much irritability of the parts the ointment cannot be borne.

Baron Larrey, in cases of traumatic erysipelatous inflammation, has used the actual canter. This is probably a remedy which will never be a favourite in our country, from the horror which patients testify to its application.

In France, where its use is common, it is regarded without aversion. It is probably attended with as little pain as the potential cautery; while its good effects are more decided and rapid.

M. Blandin, whose opinions in regard to the nature of the disease we have already quoted, considering the disorder seated in the lymphatic system, applies leeches to the ganglion above the lymphatics affected. This is to be done at the very commencement of the disease. This method has been so successful that during two years' practice, we are told, he hardly lost a patient; and in an epidemic of thirty cases he lost none. Where the disease is seated upon the trunk, it is less applicable than when seated in the limbs; and it is useless after the disorder has affected the system. Leeches applied to the inflamed surface, M. Blandin considers worse than useless. M. Lawrence, whose opinion in favour of the application of leeches we have already quoted, affirms that the cautions given by Willan and by Thompson are groundless, and that they may be applied with perfect safety. It is probable, however, that leeches applied as M. Blandin advises, would be sufficiently near the seat of the disease to answer every purpose, while being placed upon the sound skin ill effects will be less likely to ensue. No other writer that we have met with speaks of this practice, and no fair opinion can be formed until it has been submitted to further trial.

M. Velpeau, some years since, recommended compression by means of a bandage covering the whole limb. (*Archives Gén. de Médecine.*) Although he considered it highly successful in the cases he gives of its application in the different species of erysipelatous inflammation, it has been found as might be conjectured productive of mischief in the hands of others. Unless its use was sanctioned by general approbation, we should naturally hesitate to adopt such a method in a disorder like the present. M. Rayer speaks of it as useless, or dangerous, when there is infiltration of

pus. He thinks its use should be deferred to the end of the inflammation, when there is swelling and œdema of the limb. It is better, he says, only to recommend it in the œdematous erysipelas. This seems to be now the general conclusion in regard to this practice; that it is only useful where there is œdema. Dr. Johnson recommends in such cases the application of strips of linen or calico, spread with soap cerate and lead ointment, over which a roller is carried up the limb. This prevents the occurrence of small collections of matter.

A preferable course to that of M. Velpeau, at the commencement of the disease, or where it is confined to the skin, would seem to be the application of a tight bandage *above* the inflamed part. A ligature has been found highly beneficial in preventing the absorption of the venom of reptiles. Might not the action be thus arrested almost as completely by this simple method, as by the application of a blister round the limb? It would have this important advantage over M. Velpeau's method, that the progress of the inflammation could be always watched; incisions might be made when they became necessary; whereas according to M. Velpeau's method the parts must either be neglected, or from the rapid progress of the disease the bandage must be so frequently removed, in order to examine the parts, as to render it nearly useless.

I have thus given a brief abstract of the opinions of various authors, from which it will be seen that surgeons are divided into two principal classes, in regard to the treatment of erysipelatous inflammation. The discrepancy, however, seems to be rather in regard to the proportion of cases that require the tonic, or the anti-phlogistic treatment. Dr. Fordyce, it is true, supports the merits of bark in very unqualified terms, but in his communication which we have referred to, his observations upon erysipelatous inflammation are too brief, to form a judgment of his treatment of the disease. It is evident, however, that being a new remedy it was given both by him and by Mr. Wells, in the belief that it had some specific control over the disease, not as a mere tonic. As it was only in pure erysipelatous inflammation, too, that they found it beneficial, it is most probable that the disease would in many if not most cases, have subsided without any treatment whatever. A great deal may depend upon the manner in which bark is given. If care is taken to keep the alimentary canal free from irritation, the bad effects, and perhaps much of the activity of the bark, are avoided and lost, and the recovery of the patient may be owing fully as much to the laxatives as the tonics. Erysipelatous inflammation, like most cutaneous diseases, is generally connected with derangement of the digestive system. Now the most philosophical as well as the surest and safest way to remove the digestive disturbance is to evacuate the alimentary canal. This is done by emetics, purgatives, or enemata, and if any irritation is left it may be removed by alteratives. When a person by free living has brought on a state of indigestion, he will continue to be constantly troubled, while he

allows himself to live as usual. An emetic, or in some cases, a powerful cathartic, will remove the irritability of his stomach, and by moderation he will soon be restored to complete health. He may however prefer a different course. A glass of brandy taken after eating will stimulate the stomach to perform its duty, and will relieve the patient from the horrors of indigestion. It is true that after the discharge of its duty, the stomach is left debilitated like an over-worked horse, and the stimulus must be daily renewed. It would seem that these two methods by which the same end is answered had not been sufficiently considered; or at least the aptitude of stimulants and antiphlogistics to produce the same apparent effect. The latter excite the digestive system, with the absorbents, lymphatics, in fact the whole bodily machinery to healthy action, by removing the obstructing causes; the former by imparting additional impetus, and making it work in spite of the obstructions. It is true that a skilful watchmaker when a watch is brought to him, the machinery of which has become foul, will carefully clear away and remove the extraneous matter, he will not endeavour to give additional strength to the spring. Should he do so, the wheels will be injured by the friction of the foreign particles. The bark, however, might have been a perfectly safe remedy in the hands of such men as Dr. Fordyce or John Hunter, but in those of inexperienced persons much harm must result from its employment, as a general rule, in erysipelatous inflammation; the cases described by Dr. Fordyce being such as, if any, most require depletion. Where there is any inflammation of the stomach, the bark is of course improper. Bark is said sometimes to have produced inflammation of the stomach.

Hunter, however, and those who have followed him, recommend tonics with a different view from that of Dr. Fordyce and Mr. Wells. They give it in cases of evident debility, to support the strength, not to cut short the disease; with precisely the same intention that it is given to prevent mortification. The inference we must draw from a careful consideration of John Hunter's remarks is, that in the majority of the cases that had come under his notice, the patient required the support of tonics. He gives us only what he himself observed. An original thinker, like Sydenham, he did not trouble himself to quote the experience of others.

Sydenham, Lawrence, Travers, Rayer, Mackenzie, McDougal, Arnott, Macfarlane, &c. agree in recommending an antiphlogistic course in certain cases: that is, where there is active inflammation in a young and plethoric subject. They agree that it may be requisite in cases of debility to give tonics. All of them agree with Desault and Abernethy, so far as to prescribe emetics, when the stomach is disordered, and cathartics and calomel in every case.

We might form a general rule from the methods of the authors above quoted, that an emetic of antimony, or a mercurial cathartic, should be given at first, according to circumstances, unless the violence of the inflammation demanded venesection. If the disease



occurred after an important operation—if the patient were debilitated by sickness or any other cause—if the debility came on after the active symptoms were removed—we should give ammonia, quinine, or wine. We think that upon a careful examination of the authors referred to, it will be found that none of them denies the expediency of resorting to tonics in certain cases. Mr. Lawrence, who seems to have been considered as the champion of an ultra heroic, antiphlogistic course, points out very distinctly the cases in which venesection is forbidden, and tonics required. It is true, however, that the general tenor of his whole paper is in support of venesection and antiphlogistics, and opposed to tonics.

Sir Astley Cooper, who stands perhaps at the head of European surgery, might be claimed by the advocates of tonics (from the report of his lectures as originally published in the *Lancet*), but it seems to have been rather from the brevity required by the limits of the lectures, or from the manner in which they were reported. For in the recent publication of his lectures, edited by Lee, he says that it is in the debility consequent upon the first stage, that stimulants are required. Sir Astley Cooper most certainly would not give tonics under the circumstances described by Mr. Lawrence as requiring venesection; “in young persons, in the robust, and those of full habit, where the pulse is full and strong,” &c. It would be contrary to all the principles of his practice.

In regard to topical applications the weight of testimony of the authors cited is in their favour, as at least harmless, and not likely to promote metastasis. In regard to the nitrate of silver, it has been found to be beneficial in some cases, and to fail in others. The application of mercurial ointment has some advocates in its favour, and some opposers, but the principal objection to its use, its liability to salivate profusely, does not apply in the case of children. Dr. Dewees’s name is sufficient to stamp its value. The application of blisters to the diseased part has met with little favour. M. Velpeau’s method is not applicable except where there is œdema, and in a late period of the disease. The application of leeches to the ganglions is worthy of further trial. Blisters applied around the limb to the sound part, have been successful as far as they have been tried.

In the treatment of erysipelatoous inflammation, when suppuration has taken place, incisions are of the greatest value. This would seem to be a new practice recommended by M. Copeland Hutchison, in a paper in the fifth volume of the *Med. Chirurg. Transactions*. It has, however, the sanction of Mr. Hunter: “when this inflammation produces suppuration,” he says, “as the sores seldom ulcerate, they should be opened early, for the matter either gets into the cellular membrane, from the want of adhesions or its separate parts, which may be only attacked,” &c.

Mr. Lawrence advises incisions, where there is any tendency to the affection of the cellular membrane, which he thinks to be

always the case, where the disease is violent; simple and phlegmonous erysipelas differing more, he says, in degree, than in their seat.

Mr. Lawrence has been censured for the length of his incisions. Mr. C. Hutchison<sup>1</sup> protests strongly against their length. He prefers several shorter incisions instead of one of the length recommended by Mr. Lawrence. In this, however, as in every other part of the treatment, we must be guided by circumstances. It is evident that where a wide surface is inflamed, a single incision, however long, will be insufficient, while, on the other hand, more than one will sometimes be unnecessary. Mr. M'Farlane, after a trial of the methods of Lawrence and of Hutchison, says, "that when the disease extends over an entire extremity, and the tension is uniformly diffused, and so great as to indicate an affection of the subfacial cellular texture, I have experienced more benefit from one or two long incisions, than from smaller, and more numerous ones." But when the disease is exterior to the fascia, as most frequently happens, indicating the presence of gangrene or suppuration, in circumscribed portions of the texture, one or two, he says, are not attended with so much success as smaller and more numerous ones.

At all events the incision should be free and sufficient—one free incision is better than a number of small ones, though we need not adopt what Mr. Hutchison calls the "murderous" practice of Mr. Lawrence.

In England, France, and America, this practice seems to have been confined to the cases of adults; but in St. Petersburg, we are informed by Dr. Doeff, (*Lancet*, 1837,) it has been used extensively in the case of children, and with so great advantage, that whereas the mortality was formerly four fifths, it is now only one fifth. The incisions are made long and superficial.

In the same volume of the *Med. Chirurg. Transactions*, that contains Mr. Lawrence's paper, is one by Dr. Dobson, in which he recommends numerous punctures. In his practice he found it very successful, but this has not been the case with others. The plan has met with little success. They are painful, and where the cellular membrane is only slightly affected they are not required, and where it is more deeply affected, they are insufficient. They do not answer the important purpose effected by incisions, of giving issue to the purulent matter, nor of relieving the tension of the skin. In fine, the eye of the practised surgeon can alone judge where there is a tendency to suppuration, and hence where incisions are proper. They ought not to be resorted to as a general rule, in every severe case of erysipelatous inflammation. If they do not relieve the patient, we have, in addition to the previous disease, ill conditioned wounds, which may give us no small degree of embarrassment and trouble.

The present writer has no new plan to offer in addition to the

<sup>1</sup> *Med. Chirurg. Communications*, vol. 14th.

numerous and opposite methods he has described. In simple erysipelatous inflammation, he would recommend the treatment to be in all instances adapted to the individual case. There must be different classes of cases in different places. Thus the surgical wards of a hospital are apt to be crowded with the subjects of chronic disease. Many of them have been exhausted by long suffering, some by severe operations; and a large class of those brought in, in consequence of accidents, are victims of intemperance. Is there not necessarily an important difference between such patients, and infants otherwise healthy? In the case of adults, age, constitution, habits, and present particular condition, must determine the treatment. It is very much to be doubted whether, except where tonics have been given in cases of manifest sinking and debility, any patients have recovered under their use, who would not have recovered without them. There are, however, cases, where no judicious surgeon would think of withholding them. There is so great a natural temptation to the use of tonics—our patients and their friends are so apt to think if they “only had something to strengthen them, they should get well,” that the caution of Mr. Lawrence may well be repeated. He says, “medical practitioners in general are anxious to begin the strengthening plan, they seem to have the fear of debility constantly before their eyes, and lose no time in directing the employment of bark, and recommending animal food and wine. In this way relapses are frequently produced; the inflammation and fever are renewed, further local mischief is caused, and recovery retarded.” The maxim, slow and sure, is worthy of the utmost attention in medicine and surgery. It is better to trust to the natural powers of the constitution, which, unless there is some particular reason for the contrary, will restore the strength as rapidly as the safety of the patient will allow. The ground that erysipelas is a morbid poison and therefore requires tonics, is to say the least empirical and unsafe, unless all diseases thus named, typhus, small-pox, measles, scarlatina, &c. are to be treated with tonics, which is going back to the doctrines that Sydenham obtained so much honour by opposing.

In a mild attack, a saline cathartic, antiphlogistic diet, with calomel and Dover's powder, or a pill of calomel, antimony, and opium, at night; and saturnine or spirit lotions to the part affected, will be all the treatment required. Lead water, or camphorated spirits, or cologne, are good external applications in the outset; and when the blisters have broken we may apply powdered starch or flour, as advised by Sir Astley Cooper.

In a severer attack, if there is much gastric disturbance without inflammation of the stomach or bowels, we should give tartrate of antimony in the manner recommended by Desault; or ipecacuanha and calomel in large doses. Where there is less foulness of the tongue and other symptoms of deranged stomach, the bowels should be evacuated by a full dose of calomel and jalap; and a pill

exhibited of one third of a grain of antimony, half a grain of opium and two of calomel, at night, or ten grains of Dover's powder with two of calomel. If the attack be violent, the patient robust, the pulse full and strong, free venesection will be necessary; but this only in an early period of the inflammation. In judging of the propriety of blood-letting, the pulse must be our guide here, as in all other diseases. If the patient is a man of intemperate habits, or in proportion as his constitution has been weakened by an operation, organic disease, or any other cause, we should be cautious in the use of the lancet. In most cases we should prefer general to local bleeding in this complaint.

After the violence of the disease has abated, or after the employment of depletory measures, if the secretions from the wounded or inflamed part, appear unfavourable, evincing a tendency to mortification; if the strength of the patient fail; stimulants, the best of which are the ammonia and the quinine, should be resorted to; and the same rules which govern our administration of them in ordinary cases are applicable here. We are now to regard the disease as under the same conditions, and demanding the same treatment, as when we have reason to apprehend mortification.

In regard to the local treatment, this should be varied according to the case, and to the progress of the disease. In the commencement, cooling applications, such as have been just mentioned, are most suitable. After the vesication has occurred, warm applications will be found more grateful, or sprinkling the parts with flour, starch, &c. There seems also to be a capriciousness in the disease which requires the applications to be constantly varied. The writer recently had a case of erysipelatous inflammation occurring in the genital organs of a female. The lady who had been subject to attacks of this complaint on former occasions, made use of various remedies before she would submit herself to the care of a surgeon. She had employed hot lotions, cold lotions, stimulant washes, herb fomentations, flour, &c. Most of them seemed at first to relieve her, but after repetition each would increase the distress, and the ultimate effect had been to bring the parts into the highest degree of irritation. When I saw her, all local applications were intolerable; the parts were described as very much swollen and inflamed. The only application that could be endured was a bread and milk poultice, and this was so intolerable that it was difficult to prevail on her to continue it. Applied warm one day it increased the distress, the next a cold application distressed her, so that it was necessary to employ it, hot or cold, according to the state of the parts each day. It, however, with the internal treatment, relieved the irritation, and the swelling subsided; after which lotions could be borne. I may mention, however, that the poultice was removed, during the night, and the parts covered with flour, as the weight and moisture of the poultice prevented her sleeping. Laxatives, and a pill of calomel, opium, and antimony, were the principal internal remedies. The irritability of the parts subsided,



but they had not become perfectly free from inflammation, when I last saw her, which was several months after I had ceased my attendance. She informed me that since then an inflammation had occurred in her finger which swelled to a great degree. She had no medical advice, and in the course of three months from its commencement, the skin of the finger came off entire. In regard to lotions and powders, the principal object is to satisfy the patient, and to soothe the irritability of the parts. Such therefore should be chosen, as prove most grateful in the particular case. We should consider it a strong argument against any local application that it produced pain.

The use of the nitrate of silver and the mercurial ointment have too much testimony in their favour to be rejected; I do not think that either is applicable, where there is much local or constitutional irritability. Each may, however, be useful in particular cases; the nitrate of silver, we are told, will prevent metastasis; and in many cases where neither a blister nor the nitrate can be applied, we should find mercurial ointment beneficial. In all cases, however, where the situation of the part and other circumstances will admit of it, we should apply a blister around the limb, upon the sound part, especially in children. On the other hand, where we apprehend mortification, we must apply a yeast poultice or the nitrous acid lotion, as recommended by Sir Astley Cooper.

When the parts are red, tense and shining, and we have reason to believe that suppuration has taken place, free incisions must be speedily resorted to, and they must be more or less numerous according to the extent or the situation of the disease. Where œdema has taken place, we should employ bandages.

On the whole, we are in favour of an expectant rather than a too active treatment. We do not approve of the thoroughgoing tonic course of Fordyce, &c. nor of the extreme antiphlogistic. To moderate the inflammation where it is violent; to remove gastric irritation; to restore the healthy nature of the secretions; to give an early outlet to collections of matter; to support the strength of the patient where it is likely to fail—these should be our principles of treatment. Dr. Bigelow classes erysipelas among the self limited diseases; we have as yet no *proof* that it can be arrested or cut short. All violent measures should therefore be avoided.

The general principles of inflammation may serve to guide us in this. We do not say with Mr. Lawrence that it is an inflammation, and must be treated as such. We say that it is an inflammation modified by certain causes, and must be treated according to the general principles of inflammation modified by a consideration of its causes, and of the circumstances of the patient.

There is one point of contention among the English writers, which I have not perhaps alluded to with sufficient distinctness. The idea has been advanced by some, and ridiculed by others, that the disease is different in London and in the country, and requires very different treatment. It does not appear that there is any

ground for this ridicule. In a crowded city like London, there is a vast number of individuals, extremely destitute, living upon unwholesome food, in damp, unhealthy, ill ventilated, and crowded habitations; many of them accustomed to the excessive use of ardent spirits. In them, inflammatory diseases must necessarily take a very different character, and demand very different treatment from what they do in the inhabitants of the country, breathing a pure air, and living comparatively well. There are a thousand causes, which make the air of a crowded city unwholesome, and likely to produce a predisposition to such a disease as erysipelas. The class alluded to by Mr. Hutchison, that of seamen, who he tells us are more subject to the disease than any other, demand very different treatment from those first mentioned. I do not mean to say that one class of these subjects demand universally one mode of treatment, and the other class an opposite; but only that one class includes a greater number of subjects requiring the tonic treatment than the other; while the other contains a larger number requiring the antiphlogistic. The observations made in regard to London, are applicable in a degree to American cities, where there are unfortunately a sufficient number who are in a similar condition to those I have alluded to in London. On the whole, the causes that promote and aggravate the disease, exist to a much less degree here, than in Europe. No universal treatment can be laid down. We must study the constitution of the patient, his age, temperament, habits, and even his hereditary constitution, and above all his peculiar condition at the time. Our treatment must be adapted to the symptoms, progress, and character of the disorder in the particular case.

March, 1838.

THE END.



